



You can't do this stuff in Windows!

A better machine. A better magazine.

APPLE'S
NEW
Pipsqueak
PowerBook



JULY/97

Mac ADDICT 11

PLUS:

- **UPGRADE** your LC, LC II, or LC III!
- **QUICKTAKE 200**
A tough, honest review

HOW TO
AUTOMATE
YOUR
MAG!

8 EASY
STEPS
THAT WILL SAVE YOU

100 \$ OF
CLICKS, DRAGS,
& KEYSTROKES

amazing, eh?



www.macaddict.com

imagine
a new way of publishing

GO
MAKE ME A
SANDWICH!



\$7.99 U.S. / \$8.99 CANADA



What can you do with **240** MHz?

Tote enormous graphics files.

*Just a friendly reminder that you'll need an Internet Service Provider (or ISP if you're a devotee of acronyms) to get you connected. ©1997 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh and PowerBook are registered trademarks of Apple Computer, Inc. PowerPC is a trademark of International Business Machines Corporation, used under license therefrom. 180 MHz and 200 MHz configurations of PowerBook 3400 also available. Magneto-optical and second hard drives are made available through third party.

Macintosh



PowerBook 3400c



There's no shortage of things you can do with our best-selling PowerBook 1400, either. Play CD-ROMs, surf the web and send e-mail to your boss back at the office.*

Incite rubbernecking.

Run your own in-flight movie.

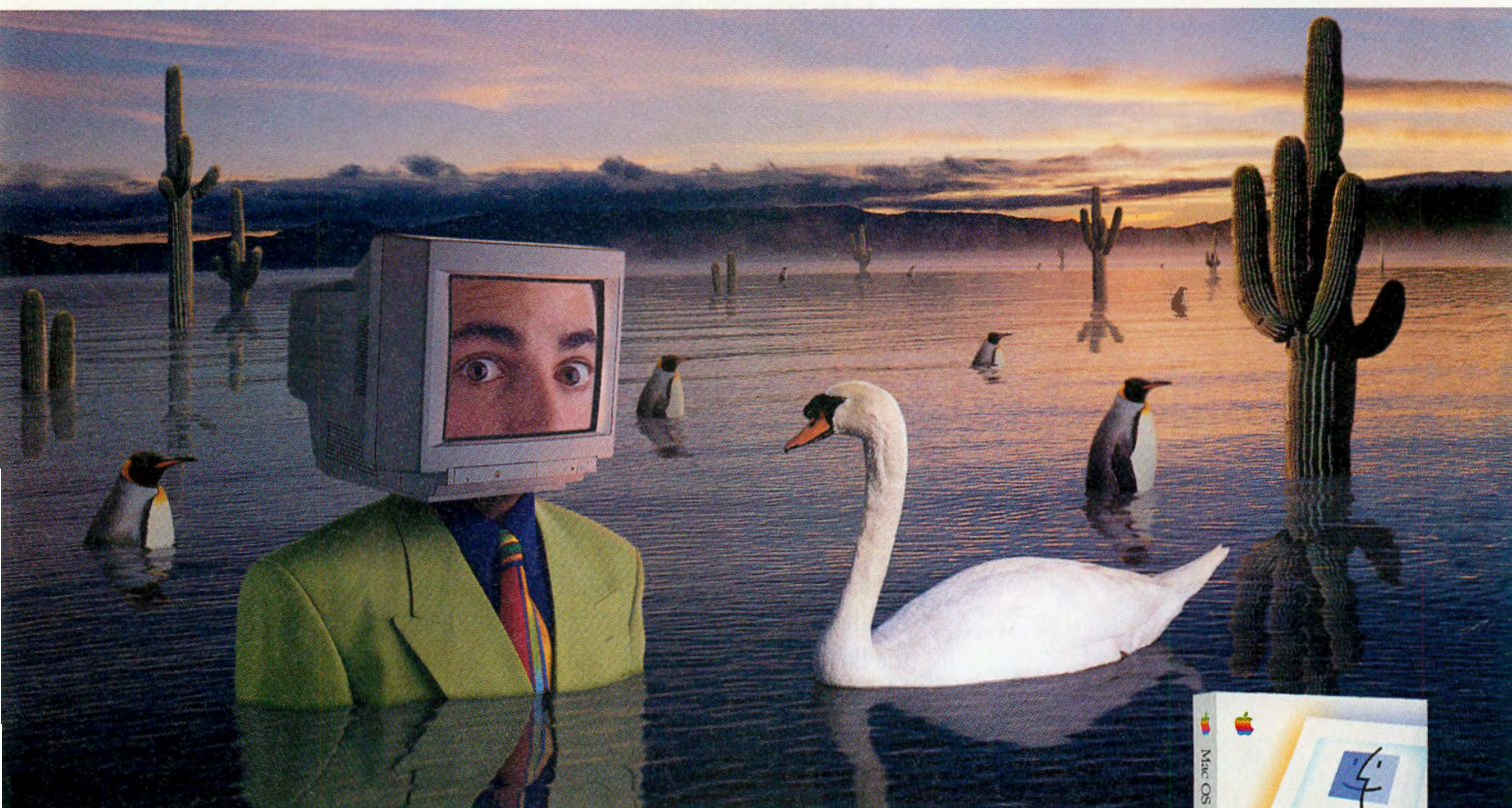
We didn't build the world's fastest laptop just to show off. But that's not to say you can't. Among its numerous talents, the PowerBook® 3400 is the ideal laptop for presentations. Its awesome speed means faster, more beautiful graphics, and its 12.1-inch diagonal screen is the perfect canvas to display your genius for persuasion.

But don't let the 3400's blinding speed blind you to its other features. Like its hot-swappable expansion bay. It lets you add all manner of drives, whether floppy, magneto-optical, CD-ROM or a second hard drive. All without putting your computer to sleep. To keep you connected, there's also a built-in Ethernet/33.6 Kbps modem.

At the risk of sounding immodest, there's no end to what you can do with the new PowerBook 3400. To learn more, visit www.powerbook.apple.com. Or call 800-538-9696 for the name of the Apple reseller nearest you.



The new Mac OS 7.6. Now, wherever your mind goes your computer will follow even faster.



Enhance your performance on your Mac OS computer.

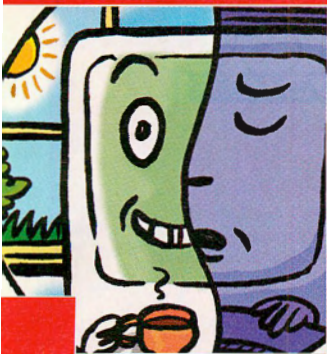
The job of a great operating system is to get out of the way. To let you fashion ideas, unencumbered by process. Nothing does that job better than Mac® OS 7.6. It not only raises 'intuitive' to new and exciting heights, it's also a major advance in the ease with which powerful new functions can be deployed on your desktop.

Now you can bring live web pages into your OpenDoc compatible documents and have them automatically updated. New virtual memory management allows you to launch your applications up to 40% faster, and your "Print" commands will execute up to 35% faster.* And you

can open PC files (including Windows 95 files) without the applications in which they were created. Mac OS 7.6 also makes the installation of an operating system simpler than it has ever been: in just a few steps you'll have access to QuickTime® applications, Apple® Open Transport, the OpenDoc® program, Cyberdog™ software*... all the latest advances from Apple.

Enrich your ideas by enhancing your computer. Buy the pleasingly affordable Mac OS 7.6 at your local Apple software reseller or call 1-800-482-6376 ext. 1421. For more information, visit us on the web at www.apple.com.





Get your Mac
hip to that
yin-yang thang.

JULY 1997

highlights

36 How to Automate Your Mac

There's no end to the things you can make your Mac do automatically—but you need to know how. Here's our eight-step guide to creating macros. **BY JOSEPH O. HOLMES**

48 Become a Control Freak at Home

Teach any ol' Mac to turn on your lights, start your coffeepot, water the lawn, make a fake dog bark, and more. It costs less than you think and takes only a few minutes to set up.

BY DAVID REYNOLDS

54 Introducing the MacAddict Remote Sensor Probe

Use our M.A.R.S. probe to snoop on us any time of day. With our exclusive software on The Disc, you can control a QuickCam located in our offices. If you only want to watch what's happening, just go to our Web site. **BY DAVID REYNOLDS**

56 This Old Mac

You asked for it, you got it. We tell you everything you need to know about upgrading the LC, LC II, and LC III. **BY T. KELLEY BOYLAN**

how to

84 Make a Phone Message

Tired of the same old dull answering machine message? Whip up something a whole lot better on your Mac.

86 Put a Movie on Your Site

Last month, we helped you prepare a QuickTime movie for your Web site. This month, we help you get it up and running.



A couch spud's dream come true!



Oh my gosh! Is it a spaceship? No, but close—it's the M.A.R.S. Probe, and you can use it to spy on us.



All right already—stop your whining. We're finally telling you how to upgrade an LC.



Our happy *Wind-up Mac and Hand* was lovingly rendered by Olivier Wolfson.

I'm seeing stars! And moons! And Apples! Oh no, I'm a macro addict!



Larry may be a hunka-hunka burnin' love, but this is ridiculous.



Mac ADDICT

EDITORIAL

EDITOR-IN-CHIEF Cheryl England
MANAGING EDITOR Judy Lewenthal
ASSOCIATE EDITORS Nikki Echler, David Reynolds,
Kathy Tafel, Daniel Drew Turner (reviews)
CD-ROM: Wade Albright (CD-ROM editor),
Thomas Hale (director, development)

ONLINE EDITOR Mark Simmons
CONTRIBUTING EDITORS Raf Anzovin, Steven Anzovin,
Joseph O. Holmes, Ross Scott Rubin
FREELANCE EDITOR Laura Fredrickson

ART

ART DIRECTOR Ken Bousquet
ASSOCIATE ART DIRECTOR Adam Vanderhoof
FREELANCE DESIGNER Bill Romano
INTERN Chris Vanderhoof

PRODUCTION

PRODUCTION DIRECTOR Richard Lesovoy
PRODUCTION COORDINATOR Ken Brandow

ADVERTISING

PUBLISHER Patricia Neuray
REGIONAL AD MANAGER André Lengyel
REGIONAL AD MANAGER John Singer
REGIONAL AD MANAGER Christina Sorrentino
MARKETPLACE ACCOUNT MANAGER Mary Lachapelle
ADVERTISING COORDINATOR Jana Massey

CIRCULATION

NEWSSTAND DIRECTOR Bruce Eldridge
NEWSSTAND MANAGER Thea Selby
NEWSSTAND ANALYST Terry Lawson
CIRCULATION MANAGER Donna Badgett
FULFILLMENT MANAGER Peggy Mores
DIRECT MAIL MANAGER Amy Nibbi

Imagine Publishing, Inc.

PRESIDENT Chris Anderson
VICE PRESIDENT/CIRCULATION Holly Klingel
VICE PRESIDENT/PUBLISHING DIRECTOR
Jonathan Simpson-Bint
VICE PRESIDENT/CFO Tom Valentino
INTERNATIONAL LICENSING: Robert J. Abramson &
Associates, Inc., 720 Post Road, Scarsdale, NY 10583

Volume 2, Issue 7

MacADDICT (ISSN 1088-548X) is published monthly by Imagine Publishing, Inc., 150 North Hill Drive, Suite 40, Brisbane, CA 94005, USA. Application to mail at Periodical class postage pending at Brisbane, CA, and at additional mailing offices. Newsstand distribution is handled by Curtis Circulation Co. Basic subscription rates: one year (12 issues + 12 CD-ROMs) U.S. \$39.95, Canada \$43.95, U.S. prepaid funds only. Canadian price includes postage and GST (GST 128220688). (IPM 0962392) Outside the U.S. and Canada, price is \$53.95, U.S. prepaid funds only. For customer service, write MacAddict, Customer Service, 150 North Hill Drive, Suite 40, Brisbane, CA 94005. POSTMASTER: Send address changes to MacAddict, P.O. Box 58251, Boulder, CO 80328-8251. Imagine Publishing also publishes boot, Ultra Game Players, Next Generation, PC Gamer, and The Net. Entire contents copyright 1997. Imagine Publishing, Inc. All rights reserved. Reproduction in whole or in part is prohibited. Imagine Publishing, Inc. is not affiliated with the companies or products covered in MacAddict Standard Mail enclosed in versions: A4, B, B2, B3. PRODUCED IN THE UNITED STATES OF AMERICA.

STANDARD CLASS
U.S. POSTAGE PAID
Waseca, MN
Permit No. 348

HEY CHERYL, "CALL ME" IT'S LIKE YOU'RE IN MY
HEAD, MAN. AND ROMAN, WHATABOUT LUNCH
SOMETIME? *HAPPY INDEPENDENCE DAY, AMERICA*



every month

8 Editor's Note

A tribute to kids—they're scary-smart these days (the ones who read *MacAddict*, anyway).

12 Letters

It just doesn't end...end...end...end...end...end....

26 Get Info

Apple's new pipsqueak PowerBook (and we mean that in the bestest way), the future of OpenDoc, our latest poll, the *MacAddict* index (with apologies to *Harper's*), and more.

32 Cravings

Six dee-lightful products that have us practically quivering in anticipation.

60 Reviews

Infini-D 4.0, speedy StarMax computers, the QuickTake 200, X-Plane, bunches of CDs, kids' software, and a galaxy of other neat stuff, too.

90 Ask Us

Understanding error messages, tips on Apple's Extensions Manager, and curing the "Can't shut down" blues. Plus a new Easter egg and solving the mysteries of the Startup Items folder.

94 PowerPlay

Mac games are getting harder to find on retail shelves. Find out what one group of developers is doing about it.

112 Shut Down

The bulletin board of the bizarre.

the disc



16

Zoom around in our all-new 3D interface to find the mysterious UFO, the destruction of a PC, a contest for winning Deneba Systems' Canvas 5, and tons of shareware and demos.

online

<http://www.macaddict.com>

24

We're starting the summer with a bang—you'll find special Web events for Father's Day, the summer solstice, and all the regular days, too. Check our daily calendar for Web events coming to you soon!

Virtually

Free Software!



Award-Winning
RECORE OCR

The "Scanning OS"

Now You Can Scan Direct to *Any* Application

"Most
Accurate
OCR"
--Business Week

File It!

Drag & Drop files from
In Tray & stack them in
folders. Type notes &
highlight important info.

OCR It!

Click once to scan &
convert your images to
text. No more retyping!

Print/Copy It!

Turn your scanner into
a copy machine! Just
Drag & Drop to print
or make a copy of the
scanned image.

Fax It!

Turn your scanner into a
stand-alone fax machine.
Scan your pages straight
to your fax modem!

E-Mail It!

Once you scan, you can send
your image via electronic mail
without leaving your application!

Drag & Drop It!

Drag & Drop documents to the
applications you use most! Just
add them to the Launcher Bar.

Scan Direct!

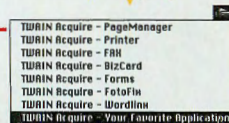
Scan to any application for
one button scanning to
Print, Copy, Fax, OCR &
E-mail!

Add Your Apps!

Plug-in your favorite
Macintosh applications!
Add multiple applications
like MS Word, Excel,
Adobe Photoshop,
Presto! Forms, etc.

And More!

Presto! PageManager
offers Built-in OCR &
File Search by date,
annotation or keyword.



Has this happened to you:

You spend \$500 for great new
software, but it doesn't work with
your scanner? So you spend \$400
for a new scanner, and now it
doesn't work with your software?

We know your concerns. That's
why **Presto! PageManager LE**,
the "Scanning OS", adds scanning
abilities to any Mac application.
No hassles, no worries.

Download Presto! PageManager
www.tophat.com/pagemanager

Or Call Toll-Free Today!

888-460-8805

Presto! PageManager LE lets
you have one-button scanning,
printing, faxing, copying, editing,
& OCR with any Photoshop Plug-in
or Twain compliant scanner.

Presto! PageManager adds value
to your scanner or digital camera!
Call today for your *virtually free*
software, for only...

\$14⁹⁵*

Presto!™ PageManager LE



* There is a non-refundable \$5 (US) or \$10 (Int'l) shipping/handling charge. Outside US call 510-445-8600. Please have your Visa, Mastercard, or American Express card ready when you call. CD-ROM format. Limited edition only. Information and prices subject to change without notice.

© 1996 NewSoft, Inc. NewSoft, Presto!, & Magic Within are trademarks of NewSoft, Inc. All other product names are trademarks of their respective companies. All rights reserved.

APS TECHNOLOGIES:®

HIGH-PERFORMANCE AT THE LOWEST PRICES!



Software Now Included **FREE**
with APS systems

- Claris Works®
- Claris Organizer™
- Claris Home Page®
- Macintosh System 7.5.3 or later
- Nisus® Writer 4.1
- PowerMerge LE
- DiskFit Direct™
- QuickMail™ Express
- Web Arranger 30-day trial
- QuickKeys 30-day trial
- America On-Line

All **M-POWER** systems are shipped complete with a floppy drive, ADB keyboard, ADB mouse, printer port, modem port, ADB port, SVGA monitor port (supporting 14", 15", 17" & 21" monitors), 2 PS/2 ports, SCSI port, IDE bus, ATAPI bus, 16-bit sound output port, rear headphone jack and a microphone jack to make computing much more enjoyable. All **M-POWER** systems are ready to grow with you – the **M-POWER 603e180** and the **603e200** desktop systems have four internal bays, while the **M-POWER 603e240** and the **604e200** tower systems have eight internal bays. These features and many more make the APS **M-POWER** system the best value in the market today.

*Monitors sold separately. Filling all available drive bays may exceed power limitations.



604e200 ♦♦♦ MacWEEK
603e240 ♦♦♦ MacWEEK
603e200 ♦♦♦ MacWEEK
603e180 ♦♦♦ MacWEEK

M-POWER 604e200
\$1899*

Part #7100-STDH



Includes:

- 12X CD-ROM
- 24MB of DRAM
- 2.5GB Hard Drive
- Floppy Drive
- 2MB of VRAM
- 512K L2 Cache
- ADB Keyboard & Mouse
- 2-Year Limited Warranty
- Optional 5-Year Service Contract

Mini-Tower Model

- Three 5.25" Internal Bays
- Four 3.5" One-inch High Int. Bays
- Five PCI Expansion Slots

M-POWER 603e240
\$1799*

Part #7008-STD



Includes:

- 12X CD-ROM
- 24MB of DRAM
- 2.5GB Hard Drive
- Floppy Drive
- 1MB of VRAM
- 512K L2 Cache
- ADB Keyboard & Mouse
- 2-Year Limited Warranty
- Optional 5-Year Service Contract

Mini-Tower Model

- Three 5.25" Internal Bays
- Four 3.5" One-inch High Int. Bays
- Five PCI Expansion Slots

M-POWER 603e200
\$1599*

Part #7000-DLXI



Includes:

- 12X CD-ROM
- 24MB of DRAM
- 2.5GB Hard Drive
- Floppy Drive
- 1MB of VRAM
- 256K L2 Cache
- ADB Keyboard & Mouse
- 2-Year Limited Warranty
- Optional 5-Year Service Contract

Desktop Model

- Two 5.25" Internal Bays
- Two 3.5" Internal Bays
- Three PCI Expansion Slots

Mini-Tower Model

- Three 5.25" Internal Bays
- Four 3.5" One-inch High Int. Bays
- Five PCI Expansion Slots

M-POWER 603e180
\$1199*

Part #7006-STD



Includes:

- 12X CD-ROM
- 16MB of DRAM
- 1.2GB Hard Drive
- Floppy Drive
- 1MB of VRAM
- ADB Keyboard & Mouse
- 2-Year Limited Warranty
- Optional 5-Year Service Contract

Desktop Model

- Two 5.25" internal bays
- Two 3.5" internal bays
- Three PCI Expansion Slots

Mini-Tower Model

- Three 5.25" Internal Bays
- Four 3.5" One-inch High Int. Bays
- Five PCI Expansion Slots

Motrola and Motrola logo are registered trademarks of Motrola, Inc. PowerPC is a trademark of International Business Machines Corp. and is used by Motrola, Inc. under license from International Business Machines Corp. Microsoft is a trademark of Microsoft Corporation. Mac OS is a registered trademark of Apple Computer, Inc. M-POWER is the trademark of Alliance Peripheral Systems, Inc. APS and APS Technologies are registered trademarks of Alliance Peripheral Systems, Inc. Sony is a registered trademark of Sony Corporation. Technmedia is a registered trademark of Technmedia Computer Systems Corporation. Other brand or product names are registered trademarks or trademarks of their respective holders.

THE NAME TO REMEMBER IN MAC COMPATIBLE PRODUCTS!™

APS HIGH-PERFORMANCE ULTRA SCSI DRIVES

Model	Description	Int.	SR 2000	APS Pro
APS Q 1280	Quantum Fireball TM, 1222MB, 4500 rpm	\$229 ⁹⁵	\$279 ⁹⁵	N/A
APS Q 2100	Quantum Fireball TM, 2014MB, 4500 rpm	299 ⁹⁵	379 ⁹⁵	N/A
APS Q 3200	Quantum Fireball TM, 3067MB, 4500 rpm	349 ⁹⁵	399 ⁹⁵	N/A
APS WD 2000	Western Digital Enterprise, 2077MB, 7200 rpm	549 ⁹⁵	599 ⁹⁵	N/A
APS I 4300	IBM DCAS - 34330, 4134MB, 5400 rpm	599 ⁹⁵	649 ⁹⁵	N/A
APS WD 4300	Western Digital Enterprise, 4157MB, 7200 rpm	799 ⁹⁵	849 ⁹⁵	\$899 ⁹⁵
APS Q 4300	Quantum Atlas II, 4341MB, 7200 rpm	849 ⁹⁵	899 ⁹⁵	949 ⁹⁵
APS ST 4300	Seagate Barracuda, 4148MB, 7200 rpm	N/A	999 ⁹⁵	1099 ⁹⁵
APS MS 4300 AV	Micropolis 4345AV, 4240MB, 7200 rpm	999 ⁹⁵	1049 ⁹⁵	1099 ⁹⁵
APS Q 9000	Quantum Atlas II, 8682MB, 7200 rpm	1449 ⁹⁵	1499 ⁹⁵	1549 ⁹⁵
APS MS 9000 AV	Micropolis 3391AV, 8669MB, 7200 rpm	1549 ⁹⁵	1599 ⁹⁵	1649 ⁹⁵

APS ULTRA WIDE SCSI DRIVES*

Model	Description	Int.	SR 2000	APS Pro
APS WD 2000 W	Western Digital Enterprise, 2077MB, 7200 rpm	\$599 ⁹⁵	\$649 ⁹⁵	\$699 ⁹⁵
APS WD 4300 W	Western Digital Enterprise, 4157MB, 7200 rpm	849 ⁹⁵	899 ⁹⁵	949 ⁹⁵
APS Q 4300 W	Quantum Atlas II, 4341MB, 7200 rpm	949 ⁹⁵	999 ⁹⁵	1049 ⁹⁵
APS MS 4300 WAV	Micropolis 4345 AV, 4157MB, 7200 rpm	1099 ⁹⁵	1149 ⁹⁵	1199 ⁹⁵

APS IDE DRIVES

Model	Description	Int.	SR 2000	APS Pro
APS WD 3000	Western Digital Caviar, 3020MB, 5200 rpm	\$299 ⁹⁵	N/A	N/A
APS I 4000	IBM DCAA-34330, 4134MB, 5400 rpm	499 ⁹⁵	N/A	N/A
APS I 2.1	IBM 2.5 17mm DCRA-22160, 2067MB, 4900 rpm	599 ⁹⁵	N/A	N/A

APS POWERBOOK STORAGE

Model	Description	Int.	SR 2000	APS Pro
APS PowerBook Drive	IBM DSOA-21080, 1080MB, 4000 rpm w/ SCSI converter card	\$599 ⁹⁵	N/A	N/A

APS REMOVABLE DRIVES

Model	Description	Int.	SR 1000	SR 2000
APS SQ 5200	SyQuest 5200, 190MB	N/A	N/A	\$389 ⁹⁵
APS Jaz	(with 1 cartridge) 1GB	N/A	\$399 ⁹⁵	399 ⁹⁵
APS Jaz	(with 4 cartridges) 1GB	N/A	699 ⁹⁵	699 ⁹⁵

APS MO DRIVES

Model	Description	Int.	SR 1000	SR 2000
APS 230 MO	(with 1 cartridge) 217MB	N/A	\$299 ⁹⁵	\$379 ⁹⁵

APS CD-ROM DRIVES

Model	Description	External
APS CD12	12X CD-ROM in Slimline Case	\$159 ⁹⁵
APS CD-R	2X record/6X read CD-R (Phillips)	499 ⁹⁵
APS CD-R Plus	2X record/6X read CD-R (Sony)	499 ⁹⁵
APS CD-R Pro	4X record/6X read CD-R in Pro Enclosure	899 ⁹⁵
APS CD-R Pro	4X record/6X read CD-R in Full Height Enclosure	999 ⁹⁵
APS Jaz/CD-R System	2X record/6X read CD-R	999 ⁹⁵

*Available in an SR 2000 Enclosure for an additional \$100.00

APS TAPE BACKUP SYSTEMS

Model	Description	Internal	External
APS HyperQIC™	Travan 4 Conner QIC 3095, 8GB	\$349 ⁹⁵	\$399 ⁹⁵
APS HyperDAT®	DDS-2DC, 8GB	749 ⁹⁵	799 ⁹⁵
APS HyperDAT® Pro	DDS-2DC, 8GB	849 ⁹⁵	899 ⁹⁵
APS HyperDAT® III	DDS-3DC, 24GB	1149 ⁹⁵	1199 ⁹⁵

■ Red indicates either new price or product



• 30-day money-back satisfaction on all APS brand drives and accessories. Your risk is the cost of shipping. 30-day money-back guarantee does not apply to **MPower** systems. Two year limited warranty on **MPower** systems. Monitors carry separate warranty from their respective manufacturers.
 • SCSI cables sold separately.
 • Drive-for-Drive Repair or Replacement Warranty: APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
 • Refused orders subject to 20% restocking fee.
 • International customers must pay for all shipping charges.
 • Listed capacities are formatted.
 • Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
 • Prices and specifications are subject to change without notice.
 • You need to install system software appropriate to your machine before using our hard drives.
 • Not responsible for typographical errors.
 • © 1997, Alliance Peripheral Systems, Inc. All Rights Reserved.
 Computer case may not exactly match images shown.

WHILE SUPPLIES LAST - 1.2GB ONLY

APS Q 1280

- High Performance
- Dependable Quantum Mechanism

Delivering superior performance from its Ultra SCSI interface, the APS Q 1280 is an excellent choice in any demanding desktop storage environment. Its sustained reads of up to 3.90MB/second and writes of up to 3.80MB/second make it well-suited for just about anything.



\$229⁹⁵
Internal configuration

1GB REMOVABLE DRIVE!

APS JAZ

- Hard drive performance
- Huge 1GB capacity on removable media

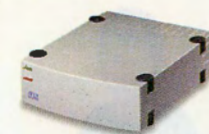
Jaz has changed the removable storage market forever! The performance of the APS Jaz rivals that of most fixed-platter hard disk drives.



\$399⁹⁵

Includes ONE cartridges

APS Jaz drive with 4 cartridges \$699.95



STEAL THIS 12X CD-ROM APS CD 12

- High performance 12X CD-ROM drive
- Great value for home and office use

Smooth full-screen video output, the 12X performance of the APS CD12 supercharges any CD-ROM application! At this incredibly low price, you can hardly afford to live with that old 2X or 6X CD-ROM drive.

*Slimline case does not include DATerm, but does come with block terminator.

\$159⁹⁵

External configuration Slimline case*

4 GIGS - UNBELIEVABLE PRICE! APS I 4300

- 5400 rpm, Ultra SCSI mechanism
- Best mix of price and performance

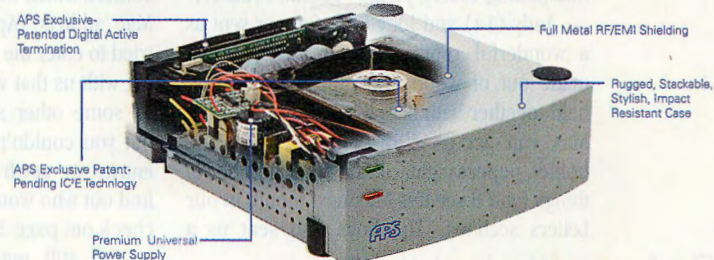
This workhorse delivers 4GB of high-performance data storage. Don't let its low cost fool you, this drive is truly a thoroughbred, delivering sustained reads of up to 6.4MB per second and sustained writes of 7.3MB per second. The drive features MR heads and a digital PRML channel.



\$599⁹⁵

Internal configuration

APS DRIVES: THERE IS A DIFFERENCE



APS
Technologies

Call 800-874-1354

Visit our Web Page at <http://www.apstech.com/>
International Sales: (816) 920-4109

Ref. No. 281000



editor's note

Hotshot kids on skis are nothing compared with young Mac addicts.

Those Smart Kids!

If you've ever moaned, "Kids these days...", filling in the blanks with something that indicates how much more ill-behaved, disrespectful, rude, and foul-mouthed kids are now than when you were one... well, just stop it! I am amazed at how much more intelligent, creative, and motivated a lot of the kids who read *MacAddict* are than I ever was—and some of them are even more talented

than I am *now*. Raf Anzovin, for example, creates whimsical, high-quality 3D animations—good enough that he scored an internship with Specular International (makers of Infini-D and now a part of MetaTools) and recently finished a graduate-level college course on 3D animation and digital video

at the University of Massachusetts in Amherst. Raf just turned 15.

Then there's John Willis, the 18-year-old who decided to start the MacAddict Booster Club (a fan club for readers of *MacAddict*). John took the initiative to contact us to see if we minded, and then he set up a Web site, doing the design, content, and maintenance on his own. He created T-shirts and sends out regular electronic newsletters. If you haven't seen it yet, the site's at <<http://members.aol.com/mabooster/home.html>>. It's clever and funny, despite the occasional misspelling (sorry, John—couldn't resist).

Andy (14) and Joey (12) Cooper sent us a wonderful replica of our mascot Max, made out of wood and pipe cleaners and held together with screws. Cool enough, but Max can act as a disc holder, magazine holder, paperweight, or any other number of things (you'll see this Max next month in our Letters section). The boys also sent us a

diagram showing how to assemble Max (although I didn't even have to look at it to put him together—these guys should know that Mac addicts never crack a manual). Andy and Joey, by the way, are part of a family with eight kids, ranging in age from 15 to two months, all of whom are home-schooled. Andy knows C++ and now is teaching it to Joey.

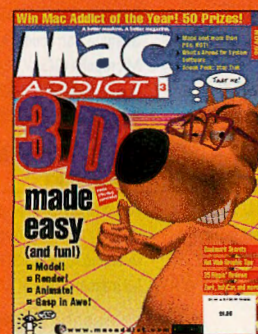
We've also received numerous requests from kids who want to write for us or who want summer jobs. Unfortunately, we can't fulfill the majority of these requests—but not because the kids lack talent. John Czarnecki, a 16-year-old budding playwright who goes by the pen name Trevor Copland, sent in some wonderfully warm, well-written columns with general observations on the Mac. Others have submitted logical, grammatically correct essays. Still others are blooming poets (Apryl Dannemiller, 12, wrote *Mac Rap*: "Yo, I am a Mac—I'm so very fine, Laptops hang around me all of the time...") or cartoonists or artists or entrepreneurs (Philip Neustrom, 13, is CEO of Dead Marshmellow [*sic*] Software, a company that makes custom cursors).

Not all the kids are kids, either. Huh, what? Some of you adults were so desperate to win the eMate in our April contest, which was intended for preteen Mac addicts (Apr/97, p29), that you tried to enter the contest anyway, pleading with us that you were kids at heart, or some other such nonsense. Sorry, but you couldn't hold a candle to the entries we got from the *real* kids. (To find out who won—and what it took—check out page 28 in this issue).

I'm still not sure that kids are, indeed, smarter today. Perhaps it's just that the easy-to-use, personable Macintosh has made it easier for them to create and communicate. Either way, I'm sure that the world is going to be left in very good hands.

—Cheryl England

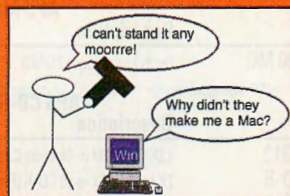
Raf Anzovin created the cover art for our third issue on his Mac. Raf just turned 15.



The 18-year-old John Willis designed, set up, and regularly updates the MacAddict Booster Club site. In fact, a lot of the sites we love are done by kids.



Sean Bach, 12, sent in this cartoon entry for our Win an eMate contest along with his list of



Mac versus Windows comparisons (for example, the Mac: a machine gun; Wintel: a peashooter).

Here's the logo from a software business run by 11- to 13-year-olds. CEO Philip Neustrom is an elderly 13.



Prince George, Virginia, high-schooler Michael Watson created this cool image. He calls it *Total Mac*.



Perhaps it's just that the easy-to-use, personable Mac has made it easier for kids to create and communicate.

Easy Web Publishing!

Drag & Drop to Create Your Own Home Page

"Foolproof Web Design" MACWORLD

"Elegant Interface" MACUSER

Frame It!

Point & click to select & size frames. Drag & drop to put content into frames.

Picture It!

Drag & drop images from Presto! PageManager or Netscape Navigator™.

Copy/Paste It!

Copy & paste text from any Macintosh application.

Video It!

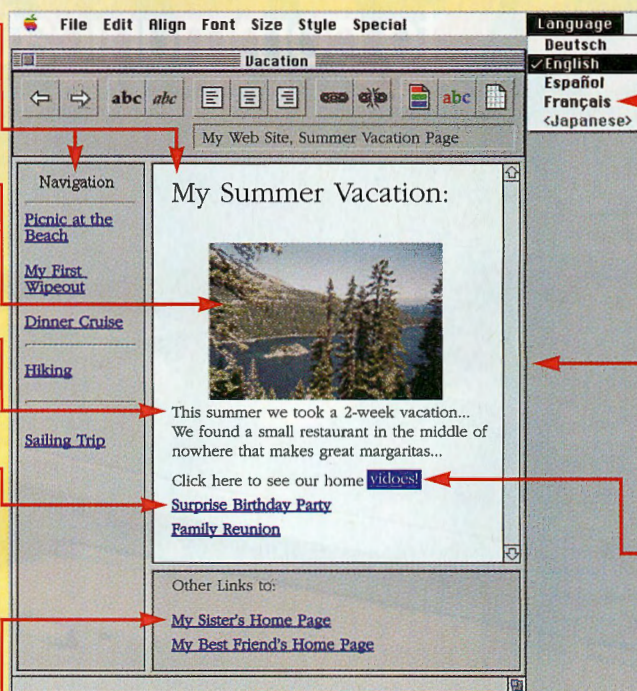
Drag & drop QuickTime™ videos & sound clips directly into your web documents and watch them play online.

Browse It!

Edit & browse HTML pages on your hard disk or network.

Drag & Drop Links!

Make a link by dragging & dropping a file icon.



Limited
Time
Offer!

Only
\$14.95*

Parlez-vous Français?

Localize your copy of Presto! Personal Page in English, French, German & Spanish.

Build It!

Presto! Personal Page builds your site, organizes your pages (ready for upload) and even checks for broken links.

Site-Wide Find & Replace!

Misspell a word – on different pages? Presto! Personal Page lets you find & replace words throughout your entire site.

WYSIWYG!

What you see is exactly what your web page looks like with Presto! Personal Page.

Has this happened to you?

You have a great idea for your own web page, but you don't know where to begin?

Or you've started writing HTML for your page, but your tags are just not doing what they're supposed to?

Download Presto!™ Personal Page Today
www.tophat.com/personalpage

Or Call Toll-Free 888-729-1017

(Shipping charges apply)

Give Presto! a try...

Just drag & drop – Presto! Personal Page writes the HTML for you.

If you've never created a web page before, Presto! Personal Page makes it easy. Download it today!

Presto!™ Personal Page for Macintosh



*There is a non-refundable \$5 (US) or \$10 (Canada) shipping/handling charge. Outside US call 510-445-8600 or fax 510-445-8601. Please have your Visa, Mastercard, or American Express card ready when you call. Add applicable 8.25% CA sales tax. 3.5" floppy disk format. Product information and prices subject to change without notice.
© 1996 NewSoft, Inc. NewSoft, Presto! and Personal Page are trademarks of NewSoft, Inc. Navigator™ is a trademark of Netscape Corporation. All rights reserved.

Your Mac gives you the
power
to communicate anything.

Windows NT version 4.0. *According to the MP Consulting Group benchmarking study, Power Macs as of 1997 offer 30% faster performance than the average PC. All rights reserved. Apple, the Apple logo, Mac, Macintosh, Power Mac and Power Macintosh are registered trademarks of Apple Computer, Inc. PowerPC and benchmarks of International Business Machines Corporation, used under license. Apple is a registered trademark of Apple Computer, Inc. All other product names are registered trademarks of their respective companies.



Power Macintosh
9600/200MP

PowerPC

So why is it your parents still don't get

what you do for a living?

Ever since the day you first wrapped your fingers around a crayon, you've been driven by the need to create. The way you create, however, has changed beyond recognition. Or at least beyond Mom and Dad's recognition.

Apple® Macintosh® computers have always understood people who create. In the words of *I.D. Magazine*, "The designer-friendly quality that characterizes the Mac is deep in the machine." Now, with our newest Power Macintosh® lineup, it's even deeper.

We understand your need for speed.

The faster your computer, the more time you have to experiment. That's why we created the Power Mac® 9600/200MP with dual PowerPC™ processors. It blows away a PC with dual Pentium® Pro processors running Windows NT.** In fact, Adobe® Photoshop runs

50% faster on a Power Mac.** Which translates into 50% less time staring at your screen and waiting for your computer to finish retouching photos, manipulating images or applying filters. Valuable time you could be spending actually doing all those things.

We understand your need for flexibility.

Some days you need to add memory. Some days, an expansion card (or three). With a Power Mac 8600 or 9600 you won't need an MIS person, or even a screwdriver to do it. Push a button and they open up simply and gracefully, placing the logic board at your fingertips. So you can do what you need to do and get back to doing what you love.



We understand your need to see how graphics will look in Windows.

Now you don't have to go out and buy a PC just to see how web sites and graphics you've created on a Mac® will look in Windows.® Just add a 166 MHz Pentium PC compatibility card, and your Power Mac can run Windows 95 or Windows 3.1 applications. You can also access a Windows network and exchange files with clients and other less fortunate folks who happen to use Windows.

For an even better understanding of the computers that understand you, visit us at www.powermacintosh.apple.com. Or call us at 800-538-9696 for the name of the Power Mac reseller nearest you. And then, if you haven't lately, call your mother.

www.powermacintosh.apple.com





letters

Letters on the obscure, really weird stuff, and—finally—an end to the bugs.

This Month

WRITE TO US: *MacDudes, MacAddict*, 150 North Hill Drive, Suite 40, Brisbane, CA 94005, or send email to <letters@macaddict.com>. FOR CD-ROM PROBLEMS: <http://support.imagine-inc.com>

FOR SUBSCRIPTION QUERIES: please call our customer service department at 800-666-6889.



GET ON,
GET ACTIVE.
Talk to us
and talk to
other Mac
addicts on
the Web site.

You'RE KIDDING, RIGHT? RIGHT?

I just wanted to tell you that contrary to popular belief, all we Canadians DO live in igloos, and we plug our Macs into the water. No, really! We dig a hole in the ice and drop the ends of all our electrical cords into the hole. See, when the fish swim around down there, they cause a hydrostatic charge in the water, and thus we get electricity. It's the same kinda thing as the dams, but we get electricity for free! Canada is great, eh! Unfortunately, we live in domes of ice. My ex-neighbor Mukhatai Ingowhre Menaianes got a Pentium (*Barf*) thing, and the little cooling system

in it didn't really work, and it melted the ice of part of his igloo, and the igloo collapsed and smooshed him. The computer was still going ('cause it's a PC and doesn't know how to turn itself off) and melted the ice the igloo was on, and the entire thing, being denser than water, sank to the bottom of the ocean. Poor, poor, Mukhatai should have gotten a Mac. —VY TRI TRUONG

AWW, MAN. POOR DUDE.

Please send me a bodyguard!!! At recess I used to get wedgies because I am a Mac user. The wedgies stopped when the weather got too cold, but I need a bodyguard before it starts happening again! PLEASE HELP ME! —ADAM BLINOV, FORT McMURRAY, ALBERTA, CANADA

I was looking around in the April issue of *MacAddict* when I came across Blobby Man on page 64. How can I compete with something like that? I've decided to drop out of computer animation. I think I'll be a custodian instead. Do you need someone to empty your trash? —PATRICK J. KELLY

OOH! A WISEGUY! YUCK, YUCK, YUCK.

I just looked up at my monitor after launching my Internet connection, and—I kid you not—a spider crawled across the screen. He's now sitting right above the menu

bar next to the clock and has been there for more than 15 minutes. I guess this means I've been spending too much time on the Web??? —RUSS ALMAN, EUGENE, OR

WE'LL ALERT THE MEDIA

I saw a news item on your Web site about the obnoxious Apple-bashing done by some guy named "Jon Swartz" at the *San Francisco Chronicle*. Let the record state that I am "John Swartz," a devout Mac addict, and in no way related to this self-serving fool. It is easy to see, however, why he no longer works at *MacWeek*. Please be certain to not confuse me with this person—I don't want to find that my *MacAddict* subscription suddenly has been canceled, or that my CD starts arriving with hate mail on it. Remember, I'm the "John Swartz" that spells his name correctly!!! —JOHN A. SWARTZ, MAC ADDICT FOR LIFE

THANKS FOR SHARING

I had just gotten my newest issue of *MacAddict* and had to use the restroom. I took my mag with me so I could get a little reading done in my spare time. I got through the letters when I realized that I was out of toilet paper. For one fleeting moment I looked at the pages that I had already read. In the back of my mind there was a voice that said, "Those pages are probably very absorbent." The thought was quickly banished from my mind, and I had a terrible itch the rest of the day. —JOSH STEWART

No KIDDING, PAL

Speaking of the Internet, I remember when you HAD to learn some basic Unix commands to do anything online. Transfer speeds of 5K to 10K (that's BYTES, not bits) per second were the norm. No "personal home pages," no IRC chat. Just lots of no-life geeks huddled over their glowing, green screens (the sheen of which would wear off into their complexions after a while), debating the pros

RECENTLY SIGHTED

SWEET REVENGE

We're going to hire Davy Fields' parents to make the cake for our next celebration with decorating like this. No icky icing-roses for Davy's 11th birthday, that's for sure. Says Davy, "I have noticed one thing about Wintel

people—they like to criticize Mac users and Macs. So one day I brought 40 CD-ROMs to school which were Mac-only, and I had my revenge on the PC users!"



and cons of the latest version of Moria (anyone remember Moria?). I almost long for those days. We were an elite group. You had to know how to use a computer, how to maintain proper etiquette, and the "emoticons" were so fresh they were funny. The first time I saw ">:-(" I nearly busted a gut. Now everyone and her cousin is online and NONE OF THEM HAVE ANYTHING WORTHWHILE TO SAY! God, I am so tired of these pubescent know-it-alls who (1) have NEVER been laid, (2) make constant sexual innuendo, and (3) react like I just puked on their dogs when I suggest there might be an alternative to Windows, SoundBlaster, and .AVI files. But, then again, what do I expect from a country that picked VHS over Beta? Sorry, did I get off on a rant, there? I do that sometimes. —ANDREW MULLEN

A FAMILY? WHAT'S THAT?

If you were to use ResEdit to replace the "Welcome", "You've got mail", etc. sounds in AOL with your family's voices, would that mean you were a Mac addict, or just someone with too much time on his hands? What if that were the only way you could remember what your family members sound like? —MIKE GAULAND

SURE DID

OK, this isn't REALLY a "You know you're a Mac addict when..." but more like a "You know too much about your Mac if..." "You know too much about your Mac if you know why you can't put a colon in a file or directory name in the Finder..." —DAVID CORNWELL

P.S. It's because the Finder uses the colon (:) to signify a directory change when writing out the path to a file (for example, Hard Disk:System Folder:Control Panels:Kalidescope [sic]), which, in reality, is the file's ACTUAL NAME! If you were to put a colon in the file's name, your Mac would think it was another directory change and go insane,

'cause the directory doesn't exist. But you already knew all that, didn't you?

SURE DOES

On page 10 of your April 1997 issue, Kevin Johnson wrote to you about classifying cockroaches as bugs. He claimed to be a "bio-geek" and seems to think that qualified him to correct your classification from bugs to orthopteran. Nice try, Kevin, but cockroaches are in the Order Blattaria, not Orthoptera. Did you folks at *MacAddict* imagine that you might incite a taxonomic war with the cockroach bit? Frankly, if you want to call them bugs, call them bugs. As long as you keep getting the Mac details right, who cares? By the way, does this letter make me a "bio-geek"? —JONATHAN P. WENGER
You're both bio-geeks. Orthoptera lumps roaches, grasshoppers, and crickets together. Blattaria further splits the classification to "roaches only."

SURE DON'T

I ask you: Have you no heart for us poor orthodontically handicapped Mac addicts? My mom won't let me read *MacAddict* when I have my orthodontic rubber bands in because sooner or later I start laughing so hard the bands snap and smack the inside of my lips. PLEASE place a disclaimer on the front of the mag cautioning against reading while physically restrained in any way. —JUSTIN "THE MAC" REESE

WHO ASKED YOU?

I think you guys find the strangest things to do with your time. —JUNIOR GARCIA

Oh, yeah! And one other thing: You guys are weird. —MARIO GONZALEZ

By the way Nikki, you have a nice butt. —JORDAN VADNAIS

WHAT TOOK YOU SO LONG?

I used a much-customized TRS-80 color computer for 15 years, but the world has moved far beyond an 8-bit processor. When I decided to upgrade, I went to the bookstore to check out computer books—there were 231 books on how to make Windows 95 work and three on Macintosh. You don't have to hit me with a brick—I bought a Performa 6400/200. —GARRY W. SPENCER

UR SMARTER 'N US

I just finished your article on the PowerBook 3400 (Apr/97, p56) issue. I had a similarly frustrating journey in trying to locate a Torx 8 ("Torqued Off," p56) to open my

Your parents
may not
understand
what you do
for a living.
But we know
some experts
who do.

Apple Authorized
Value Added Resellers
understand exactly what
your business needs.
They offer custom-fit
Apple®-based solutions
for hardware, software,
consulting, networking,
training and more.

For more information
and the VAR nearest you,
call 800-538-9696
or visit var.apple.com.



© 1997 Apple Computer, Inc. All rights reserved. Apple and the Apple logo are registered trademarks of Apple Computer, Inc.

BETTER NOT QUIT YOUR DAY JOB

I have written a song for you to be
sung to the tune of *If I Had a Mercury*:

*If I had a PC,
Tell ya what I'd do,
I'd throw it down the stairs,
Hit it with a shoe.*

*Oh, I'm crazy 'bout a Macintosh,
I'm addicted to that Macintosh,
Yeah, I'm a Mac addict,
And there is no cure,
For sure.*

—NICK "THE MADMAN" HANCEH

letters

Duo 230. Success finally came when I contacted Jensen Tools in Phoenix, Arizona (800-426-1194, <http://www.jensentools.com>). They have many different Torx sizes from which to choose. I finally settled on a little set (Catalog No. 720-335) complete with ratchet handle that included Torx sizes T5, T6, T7, T8, T9, T10, and T15—all for only \$13.95 plus shipping costs. —DAVID GRISWOLD

Reader Brian Flaberty adds that Techni-Tool (610-941-2400, <http://www.techni-tool.com>) also sells Torx 8 screwdrivers. Both Jensen and Techni-Tool offer overnight delivery. Reader Vicki Aardema notes that she found one at a car dealership.

As for your reflection about the lengths people in other states will have to go to get the correct tools to disassemble their PowerBook 3400: Try Wal-Mart. In a \$9 toolkit produced by Vermont American (10-piece Electronics Screwdriver Set) you will find the elusive T8 (8-bit). The real surprise is that the T8 is the LARGEST of the three Torx drivers in the kit. By the way, T8 is the size used in the PowerBook 140 (145, 145B, 150 et al.) for the mounting screws for the hard drive, modem, etc. (That is how I know about the little rascal!) —CHARLES J. PARKER, WINTER HAVEN, FLORIDA

I was in OfficeMax this afternoon and I came across a computer toolkit for \$19.95. It included the Torx 8 bit. Just thought that you'd like to know. —RICH THOMPSON

Several years ago, I had a roaring need to open my Duo 230 to install more memory and there was not a Torx 8 screwdriver in all of Oklahoma City or Tulsa. Out here in the Heartland, the simplest way to get a Torx 8 is to buy a Torx 10 at Sears and then take a needle file and file the Torx 10 blades down to fit. It took about 30 seconds with a needle file, or you can use a metal fingernail file or emery board and it will take less than two minutes. —KENT TALBOT

SORRY, YOU'RE BEYOND OUR HELP

OK, so my magazine is only two days, seven hours, and 45 minutes late. I am trying to stay as calm as I possibly can. The mailman is afraid to come by 'cause I have been harassing him for the last two days. I have been messing up at work because I can't concentrate. I am just worried about my little magazine and that cute little disc that comes

with it. I thought talking about it to co-workers would help, but instead I just snapped and smashed the only PC at work, while everyone cheered me on. I come home for lunch every day just to check the mail. I tried putting in one of the old discs, pretending that it was the new one, but after four hours my brain remembered seeing some of the stuff before and went into a frantic, spastic hurl. But I am staying calm now even though I think I am getting a little disc-lexic. I have been spending a little time on the Web at the MacAddict page as temporary relief, but I don't know how long I can continue—they seem to have a problem with that at the office. Please, HELP me. —GARTH A. LETTS

UH, NO REASON

Um...why did you put Steve Jobs in the Insane? —DAN TOMASCH

JUST ONE?

I made a bet with my two friends Mark and John that the first one of us to get his letter published in MacAddict will receive a free car wash every day for a week. Publish my letter first and I'll give you one of my washes. —JEFFREY SCHULER

Jeffrey, it goes against our every moral fiber to accept such blatant attempts at bribery. (Does that include a wax?)

CLUCK, CLUCK, CLUCK

Hey you silly chickens! I appreciated the article on Bryce (Apr/97, p48), but you had one boo-boo on your hi-res render secret. The method you describe works, but it is limited by the available RAM on your Mac. A better method is to set up the proper proportions for your screen render, then when you want to do the final render, go to File-Render to Disk.

You can specify size in pixels or inches and (yes, Virginia, there is a Santa Claus) the resolution. The other advantage to this is that Bryce renders every pixel completely in one pass rather than using its progressive render method and then dumps it to disk. You aren't limited by the amount of memory in your Mac. I've used this method to render 8.5-x-11 and 11-x-17 images at 300 dpi. I still use Photoshop for CMYK conversion and any other tweaks (including converting to TIFF or EPS), but it makes the actual render a lot easier to deal with. —KEN TRYON, LYNNWOOD COMMUNICATIONS, ROCHESTER, NY

HEY, SO DO WE!

I wanted to comment on the dude who says the magazine smears when you touch it with greasy hands.... DUDE! Always wash your hands before reading your pristine new issue, and hey, I've had no problems and I read mine in the bathtub every night! —SHANNA CANNADAY

WE'D SAY NOT

My dad and I love reading every bit of your magazine. We are both die-hard Mac addicts. My dad is more of one than I am. I hear him say that Macintosh is to Windows 95 what a real woman is to a transvestite. Not sure, but I don't think he likes Windows. —ALAN FINNIE, 12 YEARS OLD

WELL, THAT'S A REAL KNEE-SLAPPER

It was a Friday evening and I found it difficult to stay awake. This changed, though, when I kept giggling to myself about a funny joke I heard from a (fellow) passenger. "Windows 95 is so user friendly," she said. I chuckled all the way home. —NICK MYERS, ORINDA, CA

YOU KNOW YOU'RE A MAC ADDICT WHEN...

...you think that colorblind people are just suffering from a faulty "CLUT."

—TONY CARROLL

...you are eating a bowl of cereal and catch yourself double-clicking your spoon.

—MICHAEL FIELDS

...you refer to *The Macintosh Bible* as "The Good Book."

—JESSE MATHEWSON, BREWSTER, NY

...you turn on your car and wait for the extensions to load before you drive it.

—KAREN BEEBER

Introducing the MessagePad 2000, the only handheld computer you can actually use.

Of all the handheld computers, only the MessagePad 2000 offers sharp, crisp backlighting and a 16-level, high-resolution gray-scale screen that rotates on command. Which means you can always see your work in the best orientation—horizontal or vertical, even upside down. And in the best light. Bright. Or dim.

The MessagePad 2000 gives you more flexibility, thanks to its two PC slots (other handhelds have only one slot). So, for example, you can dedicate one to a wired or wireless modem and use the other for additional memory.

How much can you do in three to six weeks? That's how long a set of AA batteries lasts under normal usage. Note: normal usage here means a lot. Like having backlighting on, using the modem, crunching numbers, writing e-mail, drawing, doodling, whatever.

Built-in software lets you connect directly to a variety of serial, IrDA and LocalTalk printers—unlike most Windows® CE devices, which have to be hooked up to a PC in order to print.

There's fast. And then there's fast. The MessagePad 2000 comes with a screaming 160 MHz RISC processor, which offers up to five times the performance of the 20-40 MHz processors you get with other handheld devices.

The usable area of the MessagePad 2000 screen is up to 56% larger than what you'll find on most Windows CE products. So, instead of having to decipher small sections at a time, you can read the entire width of a fax or Web page.

A built-in microphone and speaker let you record and play back voice dictation. And the MessagePad 2000 is the only handheld computer that lets you record and take notes simultaneously.

The MessagePad 2000 works easily with desktop computers. So you can create documents on the MessagePad 2000, then transfer them to and from Microsoft® Excel or Word on any Windows or Mac® OS-based system. Or you can keep your calendar and address book current by synchronizing them with desktop programs like Microsoft Schedule+ 7.0 or Claris Organizer® 2.0. And it's easy: with Auto Dock, the MessagePad 2000 makes these transfers automatically.

Unlike Windows CE-based devices, MessagePad 2000 is the only handheld computer that lets you exchange data with both Windows and Mac OS-based computers.

The MessagePad 2000 handheld computer offers a real detachable keyboard (not a tiny, finger-cramping version). So you can quickly and easily type e-mail, business letters, project reports. Only your superb writing style—not your aching fingers—will determine the length of your documents.

Of all the handheld computers out there, only one makes it truly easy to be productive on the road. Introducing the MessagePad® 2000. Rather than just letting you view data, the MessagePad 2000 lets you carry out sophisticated tasks with the greatest of ease. For example: you can now write a full-length proposal, insert information downloaded from the Web—even include pricing from your company's Intranet—and then fax or e-mail it to a client. Try that with an ordinary handheld computer. The MessagePad 2000 has more power, more storage, more flexibility. All contained within the most innovative design, optimized for usefulness. Of course, there's only one real way to understand how incredible the new MessagePad 2000 is: try it yourself. For the name of a dealer near you, or to get more information, call 800-909-0260. Or visit us at www.newton.apple.com/useit.





the disc

Wind up your favorite platinum box with more than 640MB of lazy-dazy autoMac tools.

the disc



You may have noticed something a little strange. This month The Disc is so phat we needed 360 degrees of coolness to show it all to you. To navigate this RealSpace, click and drag in the direction you want to go. The Shift and Control keys zoom you in and out. Note: RealSpace only works on PowerPC-based Macs. You'll get our regular interface if you're using a 68K Mac.



SHAREWARE



And other kinds of ware, too. Click on the thumb on the lower right-hand corner to set up your Internet preferences. (If you did this last month, you don't need to again.)

DEMOS



Set sail for the islands of F/A-18 Hornet, Conflict Catcher, OneClick, and Body Voyage.

THIS ISSUE



Turn to this screen to find programs and files mentioned in the magazine. Whenever you see a disc icon in print, you'll know to come here on the CD.

Can you say, "Yowza"? In addition to the M.A.R.S. probe software you'll find on The Disc (see p54), supermeister Tom Hale added brand-spankin' new multimedia stuff to our interactive interface. And on The Disc, you'll find plenty of ways to let your Mac do your work for you so you can sit back and relax. —KT



GETTING STARTED



1. Pop The Disc into your CD-ROM drive.
2. Double-click the *MacAddict* Tour icon for PowerPC or 68K Macintosh.
3. Have fun!

REQUIREMENTS

Any Mac can access the shareware, demos, and System software from the Finder. Accessing the full CD-ROM interface requires 12MB of real RAM with System 7.1 or earlier; 16MB of real RAM with System 7.5 or later.

OUR DISC SPONSORS

To find immediate information from our sponsors, go to the Index (Option-click any help screen). Or you can wait until you see a message from them in the lower right-hand corner of the main screen. Clicking on the message causes a TV screen to slide down from the top of the page, showcasing more information. You can also access sponsor information from the main window in the Finder.

AOL



800-827-6364

<http://www.aol.com>

America Online offers access to the world of online news and information, interactive magazines, finance, entertainment, email, free software, shopping, and more. With a point and a click, you can explore the vast resources of the Internet. Sign on and receive 15 free hours.

Bungie—Marathon Infinity



800-295-0060

<http://www.bungie.com>

Marathon Infinity contains Blood Tides of Lh'owon, a brand-new 30-level scenario; Forge, Bungie's own powerful Map Editor; and Anvil, a single tool for easy modification of shapes, sounds, and physics models.

Earthlink—TotalAccess

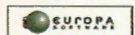


800-395-8425

<http://www.earthlink.net>

TotalAccess is Earthlink's complete software and Internet connection package. It includes Netscape Navigator, award-winning Internet access software, and everything needed to register for complete Internet access in less than five minutes. After the \$25 setup fee, unlimited access is provided for \$19.95 per month. 'Round-the-clock tech support is provided via an 800 number.

Europa Software—Web Quick



<http://www.europasoftware.com>

Frustrated by Bookmarks? Web Quick tracks every page you visit and automatically organizes them by site. It lets you create custom topics—and keeps them all at your fingertips with handy pop-up menus. Web Quick even converts existing Bookmarks. No wonder MacWEEK called it "the first Web utility that is essential!"

MacSoft—Damage Incorporated



800-229-2714

<http://www.wizworks.com/macsoft>

Lead a highly trained marine strike force in real-time through heart-stopping missions in this extraordinary 3D first-person shooting extravaganza. Fight for your own life while strategically issuing orders to your squad. Or take on your friends with deadly network play.

PhotoSphere Images Ltd.



800-665-1496

<http://www.photosphere.com>

Use royalty-free stock photos from PhotoSphere Images in your sales brochures, annual reports, Web sites, point-of-purchase displays, newsletters, multimedia presentations, print advertisements, and more. PhotoSphere specializes in images of people, and you'll find thousands of professional stock photos covering the economy, places, nature, and backgrounds. Thirty free images are ready for download on The Disc.

UMAX—SuperMac S900

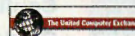


888-232-UMAX

<http://www.supermac.com>

The SuperMac S900 system was specifically designed with high-end functionality to meet the needs of creative design and production professionals. We kept all the best things you like—the familiarity and ease of use of the Mac OS, and compatibility with all your favorite software. And we wrapped it all up with the raw power of a 604 PCI-based design and delivered it at a price that can't be beat. Many unique features of the new S900 have been designed to eliminate performance bottlenecks that have long troubled the market.

United Computer Exchange—MacAppraiser



800-755-3303

<http://www.uce.com>

MacAppraiser calculates the current market price of any used Macintosh and/or compatible product with any given configuration.

WAV—

The Next Generation Desktop



801-785-2115

<http://www.dharbor.com>

WAV is the first Net-enabled component word processor...that works the way you do. WAV's clever interface provides seamless and immediate access to other OpenDoc, Netscape, and Java components. Aside from the ability to contain parts, WAV can also be embedded into other OpenDoc parts.

CONTEST

Win!Win!Win!Win!Win!
Amaze your friends with Deneba's Canvas 5!

You won't be able to automate your Mac until you untangle this mess of cables. Follow Max across the sky to get to our contest page. Unscramble the puzzle, and then we'll reveal this month's secret code. Enter the code to enter the contest. Deneba Systems' Canvas lets you mix bitmap and vector graphics. Cool.



Can you turn this...



into this?



HELP

You Have a Problem?

What! You need help? Well, if your superphat disc is missing, mangled, warped, broken, or otherwise disturbed, such as playing only music, you can get a replacement from Imagine Publishing's customer service. You also can get help here if The Disc mounts on your desktop but you are having a problem with our

interactive interface. Just go to the Imagine Support site to get the help you deserve <<http://support.imagine-inc.com>>.

If, instead, your beef is with the content—demos, shareware applications—try the CD-ROM FAQ on the MacAddict site at <<http://www.macaddict.com/cdrom>>.



DEMOS

IN DA LAB

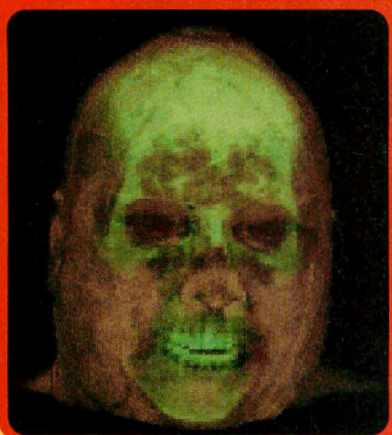
This month we bring you more than 20 terrific demos ranging from games to anatomy to Kidz Stuff. Take a shot at some OpenDoc parts, play a very odd game, or catch some conflicts. Remember, demos are not the full product. Many features from the program are disabled: Image-editing programs usually add a watermark to the screen image, and games generally allow you into only a few levels.

F/A-18



WOO-HOO! WE'RE FLYING! Check out this awesome demo of Graphic Simulations' latest Hornet version. The views are incredible from the interior VR cockpit to amazing exterior shading of the elevators. For some reason we ended up taking more screenshots of crashing than anything else.

Body Voyage



NOPE, THIS GUY doesn't look too good, does he? Well neither would you if you were dead and somebody sliced you up into 1,800 pieces. Read the review on p79 and then explore this fascinating demo.

A STRANGE CROSS between Abuse and Lemmings, Mac Worms is a multiplayer turn-based combat/strategy game that is easy to learn but very hard to master. You command a team of four worms armed to the teeth with implements of destruction. Your task is to take out the other team(s) while protecting your own team. Be careful not to hit yourself with your own shots! —WA

Mac Worms



Eva Emmer of Walnut Creek, California (what is it with all these Contra Costa County-ites winning our contests lately, anyway?) correctly identified April's secret code: NuKernel. For you trivia meisters out there, NuKernel was the core of Apple's Copland project that was killed last year. There was some debate whether Rhapsody would be based on NuKernel or Mach. Eva will be happily putting in her new Digital Lab. Turn back to page 17 to find out about your chance to win a copy of Deneba's Canvas 5.



OTHER DEMOS

activatorPro
Busy Little Brains
Claris Emailer
Conflict Catcher
Corda Live Objects
Cumulus
Dock'Em
Living Album Pro
MouseHouse
Nisus Writer 5
Numbers&Charts
OneClick
Orly's Draw-A-Story
Peak LE
QuickKeys
Rapid-I Button
SoundEdit 16
TempoEZ
TypeIndexer
VectorTools
WAV Trial

Are you losing sleep dreaming of a sexy spreadsheet and mind-blowing charts !!!

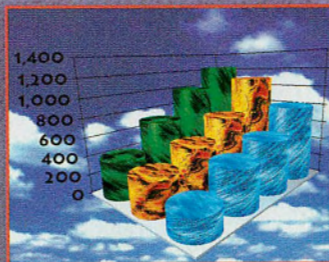
Imagine a spreadsheet with more features than ClarisWorks™,
but without the bloated feeling of Microsoft Excel™!

Introducing Adrenaline Numbers & Charts 1.0™

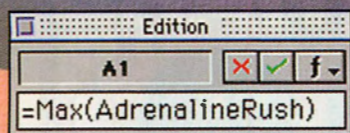
Have you ever imagined being able to transform
your existing Excel data into amazing, shaded,
texture-mapped, true 3D charts using any
3D object you like?

	1995	1996	1997	1998	1999
Model					
Caffeine Overkill	3.2	8.3	17.1	24.3	36.9
WaveCrusher	5.0	12.7	14.3	22.1	29.7
Trueman 550 GTI	7.4	14.2	18.9	24.9	34.0
OutOfControl 200/MB	11.1	34.5	61.2	76.7	89.1
Trueman Big Kahuna	2.2	4.1	31.6	50.5	66.3
Northern Impact II	12.0	22.5	27.8	34.9	42.1
HyperActive XV400	4.2	14.0	36.7	44.1	46.2
HyperActive XV7000	5.9	18.7	45.9	51.2	57.8
Terminator One	0.2	7.9	59.2	70.3	85.3
TOTAL:	51.0	129.0	251.4	328.7	402.1

Imagine if you could
save those charts as
pictures, 3D objects or QuickTime™
movies? You could use those charts in a
presentation program, a video program
or put them out on the Internet!



With its support for advanced Apple
technologies like QuickTime, QuickDraw
3D™, AppleScript™ and more, Adrenaline
Numbers & Charts takes the Mac OS™
to the max!



With Adrenaline Numbers
& Charts 1.0, you might
not get more sleep, but
you'll have a lot more fun.

Adrenaline Numbers & Charts is available right now at Cyberian Outpost, the Mac-friendly
cool place for computer stuff. You may order via their web site at <http://www.cybout.com/> or
at 1-800-856-9800. Adrenaline Numbers & Charts is also available from MacWarehouse in
the USA at 1-800-397-8508 or in Canada at 1-800-268-7805. An electronic version of Numbers &
Charts is available from C/Net at <http://BuyDirect.com>

CYBERIAN Outpost
1-800-856-9800

©1997 Adrenaline Software, Incorporated. All Rights Reserved. Adrenaline Numbers, Adrenaline Charts, ObjectTransporter,
TrueDimensioning and the Adrenaline logo are trademarks of Adrenaline Software, Inc. All other trademarks are the property
of their respective owners.

Ready for
MacOS 8

As the first spreadsheet and charting
package to be released in over two years,
Adrenaline Numbers & Charts is optimized
for the technologies of today's MacOS system
software as well as tomorrow's MacOS 8.

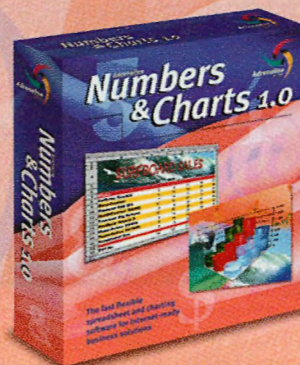
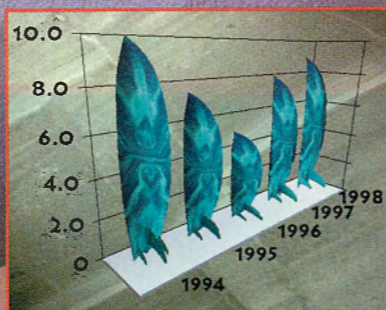
Adrenaline Numbers & Charts 1.0

Features

- PowerPC™ native calculation kernel
- 149 essential spreadsheet functions
- TrueDimensioning™ formatting
(pixels, inches, cm, points, picas)
for spreadsheets and charts
- Advanced scripting capabilities
- Export spreadsheets as HTML
- Microsoft Excel 5.0 data compatible
- 23 2D/3D chart types to select from
- Simple interface for direct manipulation
of objects
- Texture mapping of images and movies
- Import 3D objects (3DMF files)
- Full QuickDraw 3D support
- Innovative ObjectTransporter™
technology for creating custom 3D charts
- Complete OpenDoc support

System requirements

- Macintosh with PowerPC processor
- System 7.5.3 or later
- 16 MB of physical RAM
- 5 MB of hard disk space



Adrenaline Software, Inc.
1400, boulevard du Parc technologique
suite 210
Québec (Québec)
G1P 4R7 CANADA
info@adrenaline.ca
www.adrenaline.ca



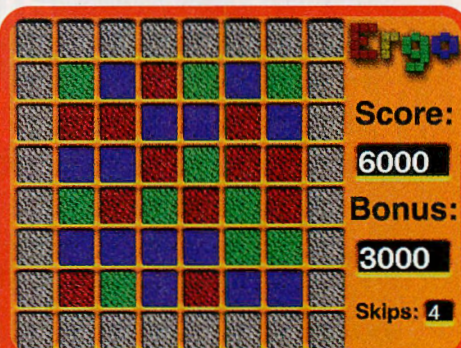
SHAREWARE

Find all kinds of spiffy shareware, freeware, beerware, emailware, and postcardware in this section of The Disc. We continually strive to make the *MacAddict* disc reflect what you, the viewing public, want. Please send your suggestions for the *MacAddict* superphat disc to letters@macaddict.com.

FUN & GAMES

Ergo

IN THIS TILE GAME, you need to change all the tiles to the same color. Each tile flips itself and its neighbors over. Set the parameters—number of colors, grid size, and difficulty—and Ergo generates a new puzzle to keep you occupied for hours.



Marathon EVIL

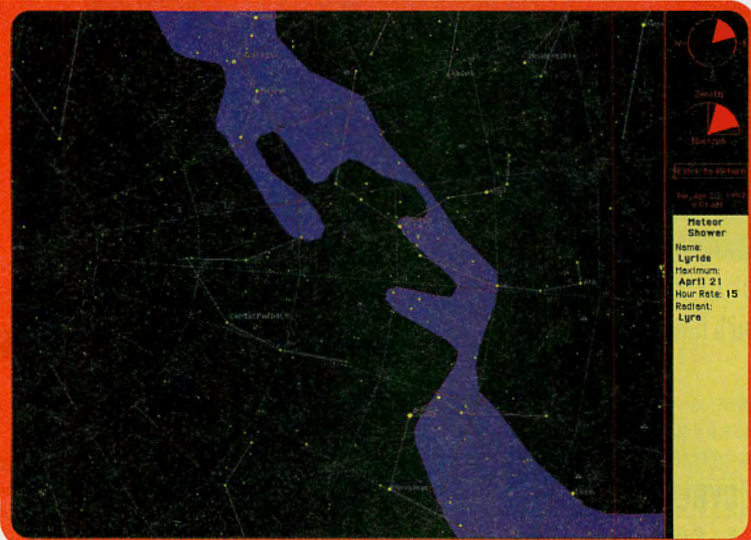
YOU'LL SOON BE ABLE to fill the lingering void you've felt since completing *Marathon Infinity*. *EVIL* rivals the previous three *Marathons* in complexity and outdoes them with some scary new beasties. The scenario will be free, but you'll need a registered copy of *Infinity* to use it. Feast your eyes on some teasing screenshots included on The Disc.

—WA

MATH & SCIENCE

MPj Astro

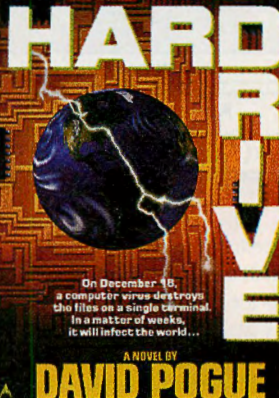
EVER WONDER WHERE EXACTLY those Heaven's Gate folks ended up? Forgo the pudding, and fire up MPj Astro instead. You can update the star map in real time, outline constellations, and even pinpoint meteor showers and comets.



HARD DRIVE

WELCOME BACK to *MacAddict's* serialization of David Pogue's Silicon Valley thriller. Find part five of *Hard Drive* in the Finder at the root level of The Disc, in which the evil virus begins replicating itself at phenomenal speed.

A NEW YORK TIMES NOTABLE BOOK OF THE YEAR
"GIVES NEW MEANING TO THE TERM 'TECHNO-THRILLER'." —DAVID BISCHOFF, author of *WARGAMES*



"WAV blew me away."

Create media-rich, living documents with the first net-enabled word processor.



Imagine the control and the freedom to focus on *your documents*, instead of on bloated, "legacy" applications. You decide what functionality you need, or don't need, and you plug it in. **Imagine the power of components helping you work faster and easier in an intuitive workspace** with true

drag and drop capabilities. With WAV, simply grab and place nearly anything you want to

utilize in your documents—period. Java™ Applets, URLs, component parts, Netscape™ plug-ins, e-mail text files, Word™ and WordPerfect® files, HTML files, PICTs, GIFs, JPEGs, graphs, sound files and QuickTime™ movies all become integrated parts of WAV documents—not just

links to system-consuming, traditional applications. **Imagine utilizing net data instead of just browsing it** by dragging websites, information and netfiles across your screen and dropping them directly into your documents. With WAV, the Internet

is *built in*, and truly becomes your own personal document resource. **Imagine the flexibility of embedding cyber-buttons with direct links to netsites—**

or if you prefer, *embedding the sites themselves* as living parts of your documents. **Imagine virtually no learning curve** and great compatibility with all your old stuff.

Stop imagining. Catch the WAV.

WAV
The Next Generation Desktop™

Call 800-759-2204 to order!
only \$69.99 (+ shipping/handling)   

or download your free trial version at:
www.dharbor.com



DIGITAL HARBOR, L.C.™

Folder Bay – Simple-to-use, easily accessible text controls are located here. You can also add your own project folders!

Cyber Button – Create single-click hot links from within your document to any Web, network, or other file location. Instantly launch local applications, sound or movie files, images and more.

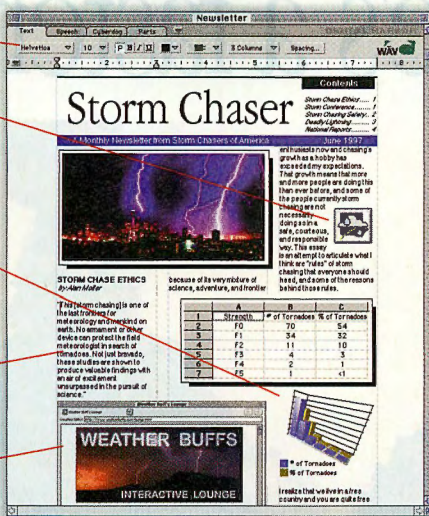
Embedded Part – WAV Documents are living documents where components can interact with each other—as well as with WAV. In this case, "Numbers & Charts" (component parts from Adrenaline™ Software) display data in an active-3D graph linked to a spreadsheet. As data is edited, the graph automatically updates.

Dynamic Text Wrap – When you drag a part into your document, you'll see how existing text wraps around the part as you move it—all in real time!

Embedded Web Page – Never before has a world-class word processor come with built-in Internet navigation, browsing, viewing and retrieval tools as a part of its control panel. When you open documents, WAV automatically opens live home pages or other embedded sites.

Other straightforward editing features include full tabs, colored text, search and replace, AppleGuide help, text to speech, word count, justification control, and full line-spacing. Most people only use about 3% of the text-editing features found in their traditional word processors. Now, you no longer need to lug around all that stuff! With component technology and WAV, if you need extra text-handling features, simply plug them in later.

*WAV installs complete with OpenDoc, Cyberdog (Net Browser, E-mail, Net Search, CyberButton, Net Management), C100™ Components LEXI & C-TextBox, and Apple Live Objects Essentials (QuickTime™ Viewer, Image Viewer, 3DMF Viewer, Apple Draw, Apple Audio).



Freakin' Awesome
rating, Mac Addict
Magazine, March '97



1997
Editor's Choice
and 5-star
technology rating.



BEST
OF SHOW
MacWorld Boston '96



Component 100
MEMBER

is a private company with headquarters in Orem, UT, U.S.A. Digital Harbor, WAV, Living Documents, and The Next Generation Desktop are trademarks of Digital Harbor, L.C. All other trademarks or tradenames are the protected property of their respective owners. **System Requirements:** Macintosh/Power Macintosh, component application size: 1.6 MB, suggested memory: 8 MB (virtual memory on); 16 MB (virtual memory off) MacOS version 7.5.1 or later, OpenDoc 1.0.4 or later. Digital Harbor, L.C., 167 S. Orem Blvd., Orem, UT 84058, www.dharbor.com, (801) 224-5184, fax (801) 224-5183. ©1997 Digital Harbor, L.C. All rights reserved.



THIS ISSUE

To get the software off The Disc and onto your Mac, go to the This Issue section on The Disc. The dial on the left side of this page switches between Highlights and Every Month (just like the table of contents a few pages back). To turn the dial clockwise, click the right side of the dial (and vice versa to go the other way). The middle column lists the article titles. Clicking an article title flips up a list of software to install.



WHEN YOU SEE this icon in the magazine, find the mentioned software in this section of The Disc.

MARS Probe

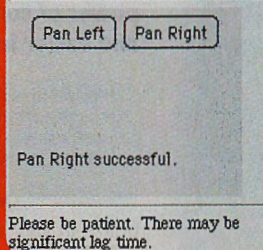
Is there life on Mars? To find out, we built the M.A.R.S. (MacAddict Remote Sensor) Probe. Read all about it on page 54, then see if you can win one of our weekly prizes. The sensor comes in two

parts: a temperature readout and a live video feed. Are we taking our 3 p.m. constitutional, or just goofing off? You, the beloved reader, will be able to see our every move. Oooh.

The M.A.R.S. Probe software on The Disc comes in

the form of Java applets. These applets were written very quickly and, as such, have not been tested extensively. They may or may not work on your machine, even if you follow the directions carefully. This is the bleeding edge, and your Mac may hurt.

Controls



MacAddict Live Video Probe



TO PAN THE QUICK-CAM, just press the appropriate button. You will be fighting all the other people on the Net for control of the camera. You might want to try at 3 in the morning.

There's a faster, cleaner



Houston, we have liftoff. Presenting the Apple® Internet Connection Kit. Everything you need to blast onto the Internet, browse the web, and send e-mail in one simple to install, no hassle package. So what do you get? Well, the kit comes complete with Netscape Navigator™ 3.0 and Claris Em@iler™ Lite software, plus QuickTime® VR Player, RealAudio™ Player, Macromedia Shockwave, Adobe™ Acrobat™ Reader, Farallon's Look@Me, and a host of other software that installs easily in just minutes. As if that weren't enough, Apple Internet Dialer will even help you select an Internet Service Provider, and set up an account with just a few clicks of your mouse. And if you have any problems, Apple Guide online help can answer any Internet related questions you may have —



TO SEE HOW HOT WE ARE, choose Inside or Outside temperature, and click the Update button.

ected to the Internet!). From the Edit menu, choose Preferences. Click the Web Content tab. Make sure the checkbox labeled Java has a check in it. Select Don't

You will need a Java-enabled Web browser to use the M.A.R.S. Probe. You may not want to hear it, but we found that Microsoft Internet Explorer was the most stable browser. Install Explorer from The Disc, located in the Communication folder in the Software folder. Launch it (be sure you're con-

Check Code from the Byte Code Verification: pop-up menu. Select Unrestricted Access from the Network Access: pop-up menu. Click OK to dismiss the dialog box.

From the File menu, use the Open command to launch the test.html file in the Probe folder. This will test

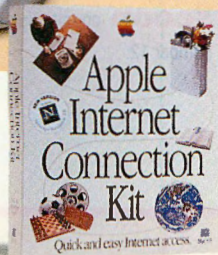
whether or not our server is available. If you try to use the temperature or video probes when the server is down, your Mac will not be very happy. The files must be used directly from The Disc. If you copy the files to your hard drive or to another computer, the M.A.R.S. Probe will not work. Have fun!

Control Freak

WITH THE VERSION of Xtension on The Disc, you'll be able to control a CP290 unit for free. Just don't pull a Billy Tamai and prank your family into thinking there's a high-tech stalker after them or you could get into trouble with the authorities.

Master List		
Name	Status	Description
All Inside Lights		All of these units may be commanded
Outside Lights		This group is used to control the
o Bath lights	B5	Lights in the master bathroom
o Bed Alarm	B4	Alarm next to master bed
o Bed Lamps	B3	Bed lamps in the master bedroom.
o Coffee Pot	K3	The coffee pot should not be left on.
o Daylight	✓✓	Local variable for whether daylight
o Dining Lights	D4	75 Both overhead dining room lights.
o Dining Movement	✓✓ D2	Movement sensor in dining room
o DuskSensor#1	✓✓ F6	One of two dusk sensors.
o DuskSensor#2	✓✓ P7	Second of two redundant dusk
Evening Lights		Use this group to turn on lights in the
o Foyer Chime	P1	Alarm for front walk motion.
o Foyer Light	F1	75 Light in foyer entrance.

way to get on the Internet.



like, "This was so easy, why didn't I do this sooner?" The days of plodding along with complicated connections are over. With Apple, getting on the Internet now happens at warp speed. Visit your nearest Apple reseller, or order by calling 1-800-950-5382, ext. 1401. Apple. The power to be your best.

In Canada please call 1-800-361-6075 ext. 245. ©1996 Claris Corporation. All Rights Reserved. Apple, the Apple logo and QuickTime are registered trademarks of Apple Computer, Inc. Claris Em@iler is a trademark of Claris Corporation. Adobe and Acrobat are trademarks of Adobe Systems Incorporated or its subsidiaries and may be registered in certain jurisdictions. Netscape Navigator is a trademark of Netscape Communications Corporation. RealAudio is a trademark of Progressive Networks, Inc. All other trademarks are property of their respective owners.



the web site

Even as we set pen to paper, your obsessive-compulsive online editor is toiling away on another Web site redesign. This new incarnation of the *MacAddict* site will put a spring in your step, starch in your shirt, and a smile on your face. You'll command the wis-

dom of ages, fly through space, and travel through time! Or at the very least, you'll be able to find the BetaWatch page again.

And while we have your attention, we'd like to put in a plug for a couple of our special friends. They say that imitation is the sincerest form of flattery,

but we've got something better than that—the greatest compliment is when your readers take the trouble to set up fan Web sites to sing your praises. Now you can hang out with your fellow *MacAddict* readers at the MacAddict Booster Club <<http://members.aol.com/ma>

booster/home.html> and MacAddict World <<http://www.geocities.com/SiliconValley/Pines/8360>>. Gosh, you guys are grand.

OK, enough about us. Let's talk about us—and what we're going to do for you this month. —Mark Simmons

J U N E 1 9 9 7

MONDAY

2 The daily madness begins anew, as we kick off June by anointing another Site of the Week.

9 Is it that time again already? We finger another Site of the Week, according to the dictates of our own whimsy.

16 We're a little bit artsy and a little fartsy. Today, we'll single out a **Mac-designed** Site of the Week based solely on its superficial beauty.

23 If you visit just one Web site this week, make it ours—and if you visit only two, check out our Site of the Week as well! Sorry, self-interest wins.

30 In like a Site of the Week, out like a Site of the Week. Chase away the Monday blahs with this week's happy fun site!

TUESDAY

3 We ferret through our own Dumpsters to bring you an exclusive **sneak preview** of our August issue.

10 Having goaded a selected *MacAddict* staffer into a fit of frenzy, we'll allow them to let off steam in a new **Web Exclusive**.

17 You can't be at Mactivity (Santa Clara), Mac OS Expo (New York), and E3 (Atlanta) at the same time—but our daily news can help you fake it in this expo-packed week.

24 Though you can't partake of the awesome meeting of the minds that transpires daily in the *MacAddict* office complex, you can **taste the magic** via our latest Web Exclusive.

WEDNESDAY

4 Why is a raven like Nisus Writer 5? We may not know, but we'll field all your questions on our regular Q&A Wednesday.

11 Did **Cheryl England** invent the Macintosh? We'll lay some (head-scratching) historical conundrums to rest on our Q&A Wednesday.

18 Vex the experts and befuddle the bluffers, as we **fake** our way through our regular Q&A Wednesday.

25 Wondering why it's officially "System 7.5" and "Mac OS 7.6"? So are we. We'll take on your other bafflements on our Q&A Wednesday.

THURSDAY

5 They struggle mightily to bring you reasonably priced, **life-enhancing goodies**; we acknowledge their efforts with our Shareware Pick of the Week.

12 Trouble can strike at any glebnorxx. Brace yourself for Friday the 13th with a preventive Shareware Pick of the Week.

19 You can pick your friends, but only we get to pick *MacAddict's* official Shareware Pick of the Week. Haw, haw, haw!

26 Now that summer's here, it's time to put aside nonchildish things and revel in a goofy, entirely **nonfunctional** Shareware Pick of the Week.

FRIDAY

6 Dude, dig it! We'll have some freaky, far-out new stuff in our stupefyingly psychedelic Reader Art Gallery.

13 Just to spare you potential embarrassment, we'll decorate a bit to remind you that **Sunday is Father's Day**. Aren't we swell?

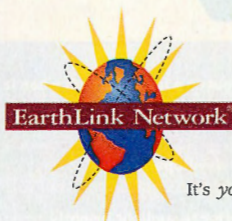
20 It's the last day of spring. We'll see what's on your wistful minds with a summery poll.

27 Our August issue should now be rolling off the presses and into mailboxes and newsstands near you. We'll give you the complete and **utter scoop** on our big issue number 12.

Isn't it time to switch your Mac to reliable high speed nationwide Internet access?



It's time to graduate from that miserable online service you've been trying to use. EarthLink Network offers you reliable, high-speed nationwide Internet access with all the goodies you expect, and more, for \$19.95 per month.



It's *your* Internet.™

1-800-94-EARTH

COMPLETE SOFTWARE FOR WINDOWS OR MAC E-MAIL FREE WEBSITE FREE 24 HR HELP LINE NEWS
PERSONAL START PAGE™ AOL GRADUATES GUIDE OVER 600 LOCAL DIAL-UP NUMBERS NETSCAPE NAVIGATOR™
NEWSLETTER INTERNET BUSINESS SOLUTIONS FROM WEB HOSTING TO HIGH SPEED ACCESS.

net

The Net Magazine
"A"-Rated



Pournelle's
User's Choice Award

YAHOO!
Internet Life

Yahoo's™
"Best of the Best"



get info

News, trends, and other very valuable information that you will want to know.

COMET STRIKES UNITED STATES



THE 2400c PROVES APPLE'S PowerBook division isn't a fly-by-night operation.

A slim, trim PowerBook is coming your way this summer, and it's going to be hot. Weighing in at a little over 4 pounds, the PowerBook 2400c (code-named Comet) will make its debut in May in Japan and then will head for the United States in late July. Think of it as Hooper Light: all the power of the 3400 but now with half the weight.

The PowerBook 2400c has at its heart a 180MHz PowerPC 603e and 256K of Level 2 cache. The base model will ship with 16MB of RAM (expandable to 48MB through a single RAM expansion slot); a 1.3GB hard drive; a 10.4-inch, thin-film transistor, 800-x-600 active-matrix display; 1MB of VRAM; a lithium-ion battery (rated at two to four hours); a Duo-style power supply; and the cutest little external floppy drive this side of the Oort Cloud.

At 4.4 pounds, the 2400c is the lightest 'Book to come out of Cupertino in several years—lighter even than the Duo 2300c, which weighed 4.8 pounds. Despite this light weight, the 2400c performs as well as a 3400 in basic benchmarks, partially because the two share the same basic architecture. So if Apple didn't cut the performance, where did

it cut? The 2400c doesn't have an internal floppy or

CD-ROM drive, which accounts for some lost weight. By moving the floppy drive to an external device (which itself weighs less than half a pound), the 2400c stays thin. Although the 2400c is based on a PCI architecture, it doesn't have a PCI expansion slot, which eliminates on-board Ethernet (à la the 3400's expansion card). We've also heard rumors about a drug that makes the Comet 10 percent thinner—without exercise!

Despite the lack of media devices, don't think the 2400c is an island unto itself. Although it doesn't include the Duo's docking capabilities, the 2400c does include a full range of ports: a modem/printer port,

STEALTH BOMBER A LIGHTWEIGHT

an ADB port, a SCSI port, a floppy drive port (hey, haven't seen one of those since the Mac Plus), a 16-bit video-out port (mirror-mode only, like the 3400), 16-bit sound-in and sound-out ports, and two Type II or one Type III PC card slots. Through the PC card slots, users can add a modem or Ethernet capabilities.

Think of it as

Hooper Light.

How much is this little bundle of flame? \$3,499, which includes a light software bundle: ClarisWorks, Apple Internet Connection Kit, Apple Remote Access Client, Eric's Solitaire Sampler, and the Apple Location Manager, to name a few. One last tidbit: The 2400 is made in part by IBM. The times they are a changin'.... —DR

Comet Checklist

	Hale-Bopp (actual comet)	PowerBook 2400c (code-name: Comet)
Creates a lot of hubbub when it appears	✓	✓
Co-developed by IBM	no	✓
Reflects sunlight brightly	✓	no
Suicides attributed to its arrival	39	0
Battery life	Millions of years	2 to 4 hours
Zoom video support	Telescope required	✓
Last appeared	During the time of the Egyptians	Only seems like it
Speed	Helion-variable (typically thousands of miles per hour)	180MHz
Best viewing position	Northwestern sky around 9 p.m.	Lap

OpenDoc on Ice

BUT STILL NICE

For the last four years, Apple pushed OpenDoc as the latest, greatest technology—one that would revolutionize the software industry. The promise of OpenDoc was that small development houses could create small software parts, package them with other parts, and sell them as solutions that would compete with larger companies' software suites (read: Microsoft Office). As a consumer, you could mix and match components from different companies, tailoring them to your own specific needs.

We believed Apple. So did a lot of small developers who have spent the last year or two putting together very ingenious parts.

As it took longer and longer for compelling OpenDoc parts to be available, ActiveX, the Internet, and Java took industry mindshare away from OpenDoc. Apple would have faced spending *beaucoup* dollars to make OpenDoc a success—dollars Apple couldn't afford to spend. So, as part of its restructuring efforts, Apple will no longer fund OpenDoc and Cyberdog development. CI Labs, the group co-founded by Apple and IBM to oversee OpenDoc and to validate parts as Live Objects, will be dissolved at the end of June.

Apple is, however, encouraging developers to rewrite their software in Java and also develop it for Rhapsody. The only

problem with this development scenario is that Java Beans—the component part of Java—won't be available on the Mac for another few months, and even then, it will take more time for developers to rewrite their programs because Java Beans is not as fully featured as OpenDoc. Rhapsody is even farther out on the

horizon. OpenDoc developers are die-hard Mac heads, the kind of folks Apple needs for Rhapsody development. We talked to some of these developers (see "Get Parts" at right) to find out how they're dealing with Apple's plans.

The good news is that as of Mac OS 7.6, OpenDoc is part of the Mac OS, will be for the next year at least, and should work in Rhapsody's Blue Box. Other technologies, such as AppleScript, have been ignored by Apple for years but are still viable for everyday use. Never fear. If you invest in software that requires OpenDoc, it will work. —MS and KT

OpenDoc
developers are
die-hard
Mac heads.



USE ADRENALINE'S NUMBERS&CHARTS to make spiffy 3D charts. Adrenaline bills this program as more fully featured than ClarisWorks and faster than Microsoft Excel.



FIND OPENDOC 1.2, Cyberdog 2.0, Mac OS Runtime for Java (MRJ) 1.01, and parts demos on The Disc.

Get Parts

- **Apple:** OpenDoc 1.2 and Cyberdog 2.0 are final versions. Several *MacAddict* staffers use Cyberdog 2.0 and are quite fond of it saying the name of the email sender.

- **Adrenaline Software:** The company plans to make a Java version of Numbers&Charts and to eventually bring it to Rhapsody. Because Adrenaline makes heavy use of the QuickTime Media Layer, the company should be well poised to take advantage of Rhapsody.

- **Digital Harbor:** Registered owners of the OpenDoc-based incarnation will receive a free upgrade to the upcoming Java-WAV.

- **MetaMind Software:** Dock'Em will be moved to Java, though the company thinks Java needs serious work before it can replace OpenDoc.

- **Hutchings Software:** Brad Hutchings wants to keep OpenDoc alive; he has posted a proposal to take over Apple's OpenDoc Framework.

- **Corda Technologies:** While the company intends to begin porting its parts components to Java, it also points out that OpenDoc will still be supported in the next couple of Mac OS releases, so users "should not be shy" about purchasing Live Objects.

Bill Gates

(check one only)



Evil



Just misguided



Is Bill Gates—you know, the guy at the top of Microsoft's org chart—evil? Or is he just misguided? Some people have accused Microsoft of announcing future products just as their competitors ship the same thing. The Mac versions of certain productivity programs have lagged behind their Windows brethren. Bill Gates has been buying up media providers and deliverers left and right. He's out to rule the world! On the other hand, maybe he just doesn't have anything else to do with all that cash. You tell us at <<http://www.macaddict.com/poll.html>> or at Bill Gates, c/o *MacAddict*, 150 North Hill Drive, Suite 40, Brisbane, CA 94005 by July 15, 1997. We'll run the results in a future issue.

get info

Make the Most of Megahertz



A 604e CHIP IS BIGGER, hungrier for power, and more expensive...but faster than a 603e chip at the same speed.

Wow—300MHz machines! We all want the fastest computer, right? So we should all go get a Power Mac 6500/300, right? Not so fast, bucko. There's more to a motherboard than clock speed.

Megahertz represents the number of cycles per second a chip can run. During each cycle, the processor moves data around in memory and performs operations. Although megahertz measures how quickly a

specific processor can, well, process, there's a lot that goes on in between it and you. Say Sam can solve six addition problems per minute in his head and Fred can solve only four. So Sam is 33 percent faster. But if Sam can write down only two answers per minute while Fred can write down four, to someone waiting to read the answers, Fred seems twice as fast.

The same thing happens in your Mac. A "fast" processor doesn't necessarily mean a fast Mac. A better measure is how quickly a machine can move data in and out of different kinds of storage space. The most accessible memory location is Level 1 cache—the most-frequently used data get placed there. After the processor uses up the L1 cache, it starts to put data in Level 2 cache, which is on a separate chip on the motherboard. When the L2 cache is full, the processor has to store data on the hard drive, which is relatively tough to access.

Bus speed then becomes a problem. Bus speed measures how quickly information can be transferred from the drive to the processor, from the processor to the L2 cache, and

A FAST LESSON

so on. Currently, bus speeds range from 40MHz to 60MHz—a lot slower than

processor speeds. Processors run at multiples of bus speeds, from two to six times. Here's where it gets a little esoteric. The smaller the multiplier, the faster the system. With, say, a 300MHz chip on a 50MHz bus (a multiplier of six), the processor could run six operations while it waits for the piece of data it needs to make the trek from memory.

The last factor in the speed equation: A megahertz on one flavor of chip isn't the same as a megahertz on another flavor. For instance, with all the factors we mentioned being equal, a 604e clocks in about 30 percent faster than a 603e at the same megahertz. Or think of it this way: A 604e runs neck-and-neck with a 275MHz 603e, due to the different chip.

So the next time someone checks out your processor speed and tries to kick sand in your face, feel free to respond with, "Really, computer speed is a complex matrix of many variables, including..." Or maybe, "It's not how fast it is, it's how you use it." —DDT

There's more to
a motherboard
than clock speed.

Home Found for eMate

We received many charming entries for our eMate 300 contest (Apr/97, p29) and were hard-pressed to pick the winner: Clay Cooper of Bend, Oregon (age 9).

Clay made a mock laptop complete with trackball (marble), latch (Velcro tabs), and keyboard (pencil on paper). Here's an excerpt of the poem onscreen: "Oh my golly! Oh my gosh—I wish I had my own Macintosh." Other entries contained great poems, too,

but Clay's presentation won us over: We're suckers for duct tape. —KT



Multiprocessing Apps Multiply

JUST LIKE WABBITS

Multiprocessing, multi-tasking multithreaded, —and don't forget multimedia. It seems as if *multi* has been multiplying all over the Mac industry. Let us help you with at least one of those terms.

A multiprocessor Mac has more than one CPU chip in it. For a while, DayStar Digital was the only purveyor of such systems, but now you can get them from Apple, UMAX Computer, and Power Computing. Developers now are embracing the multiprocessing API built into Mac OS 7.6, which allows them to take advantage of multiple processors and make their software really screaming-fast.

Programs that are especially well suited

to multiprocessor Macs also eat up processor cycles. An email client spends more time waiting for you to type a message than it does hogging the CPU. But programs such as Adobe Photoshop, 3D renderers, scientific modelers, and video- and audio-editing programs beg for every cycle you can give them. About 50 programs—including Deneba Systems' Canvas, MetaTools' Kai's Power Tools, Fractal Design Painter, and Adobe Premiere—have been released or are in development to exploit the added power. For more information, visit DayStar's multiprocessing apps page at <<http://www.daystar.com/Superfast.Apps/Aps.html>>. —KT

Fasten Your Seatbelt.



Faster Scanning. Intense Color.

INCLUDES:



For Windows models: Ulead® iPhoto Express™ (Windows® 95/NT compliant) photo-fun software to make greeting cards • calendars • announcements • Windows wallpaper • and more



For Macintosh models: MicroFrontier Color It! 32-bit image-editing/paint software

Windows or Mac models: Visioneer® PaperPort document management software. Drag-n-drop scans to OCR, fax, e-mail or printer software

visioneer

PAPERPORT



For Windows or Macintosh models: Caere's OmniPage Limited Edition OCR software for scanning and converting pages of text into digital files that can be edited

For Windows or Macintosh models: Microtek's award-winning ScanWizard™ scanner controller "...arguably the best in the business..." according to PC Magazine (3/4/97). Adjust color tints, contrast, brightness, remove halftone dots and more. See enhancements on screen before the final scan.



Software & user's manuals on CD-ROM!

Available in Windows or Macintosh models

Works with Windows® 3.1x, 95 & NT!



- 24-bit color depth
- Incredibly fast single-pass scanning
- 300 x 600 dpi optical resolution
- 4800 x 4800 dpi enhanced

Drive It With The Top Down or Up & Enjoy The Scenery. Microtek's new and incredibly fast ScanMaker® V300 color scanner is a sporty little model that's small enough to park on your crowded desktop, yet powerful enough to scan and place virtually any color image or document directly into your computer. Capture breathtaking color photos, documents, even 3-dimensional objects in seconds. And it's full-loaded with software at an amazingly low sticker price.

New Technology from Microtek Engineering. The ScanMaker V300 features many new advances in scanning technology including the *FlexScan™ Lid*, a unique hinge design that allows the V300's lid to remain flat even when scanning books and other 3-dimensional objects; stay upright to align documents on the scan bed; or quickly detach for scanning oversized documents. A *Parallel Port Cable* is included for Windows models for quick-and-easy / plug-n-play installation, so there's no need to pry open your PC to install an interface card. And with Microtek's *Zero Reflection Design Technology™* you get denser, sharper color through optic and hardware design that minimizes light "bounceback" whenever you scan.

Want More? For the Microtek reseller nearest you or more information about the new ScanMaker V300, call Microtek Sales at 1-800-654-4160. For information about scanning or Microtek's other great products, dial our AutoTech fax back system at 310-297-5101 or point your Web browser to our award-winning Web site: www.microtekusa.com.

MICROTEK
ScanMaker V300

ONLY \$229!
Suggested Street Price



MICROTEK
Better Images Through Innovation.

Price mentioned is U.S. suggested street price. Bundled software and user's manuals are on ScanMaker V300 CD-ROM. Retail packaging of software depicted is not available. The following are trademarks or registered trademarks of their respective companies: Microtek, ScanMaker, Zero Reflection Design Technology, Flex-Scan Lid, and ScanWizard of Microtek Lab, Inc.; Windows of Microsoft Corporation; Macintosh of Apple Computer, Inc.; OmniPage Limited Edition of Caere Corporation (1-800-535-7228); PaperPort of Visioneer, Inc.; Color It! of MicroFrontier, Inc.; iPhoto Express of Ulead Systems, Inc. All other trademarks or registered trademarks are the property of their respective holders. Prices, specifications and software bundles are subject to change without notice. V300PCW597

get info

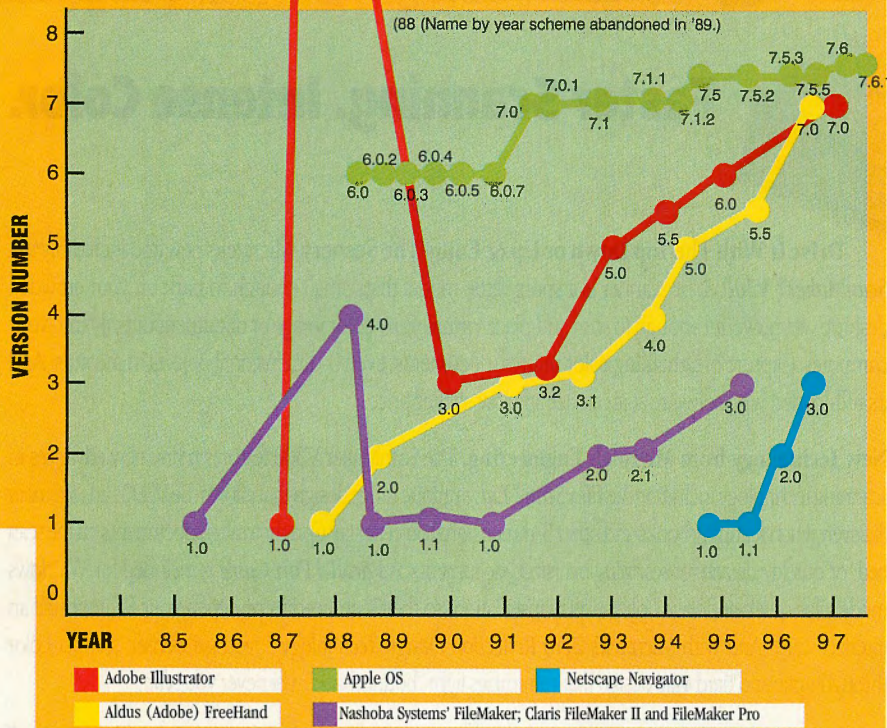
get info

MA LAB

MacAddict Lab Report

Over the last few years we've seen an alarming trend in version number inflation. Once upon a time, we'd see the first digit changed only to reflect major overhauls, and the second digit for feature enhancements. Nowadays, nobody has the

patience for x.1, x.2, x.3 iterations—a couple of new filters or a toolbar is good for at least a 0.5 jump, and whole-number increments are preferred. To the software giants we say: Take a chill pill, or by mid-1999 you'll be up to version 95. —MS



The MacAddict Index

Price in dollars of the "network computers" Apple should be making for kids in schools, according to Larry Ellison: 500

Price in dollars of the laptops Apple should not be making for CEOs, according to Larry Ellison: 7,800

Dollars Apple has spent on restructuring during Gil Amelio's tenure as CEO: 334 million

Gil Amelio's 1996 pay in dollars, including salary, bonus, and other compensation: 6,822,701

Number of days between Apple's announcement of a 300MHz Mac and Motorola's announcement of a 300MHz Mac compatible: 10

Percentage of CGI authors who program in AppleScript: 14.4

Percentage of all Internet traffic produced by PointCast servers: 17.8

Number of Montgomery County, Maryland, middle schools featured in a March *Washington Post* story as case studies of schools switching to Windows: 1

Number of Montgomery County's *other* 29 middle schools that still use Macs exclusively: 29

FOCUS ON: APPLE STOCKHOLDERS!

Shares of Apple stock held by Prince Alwaleed Bin Talal Bin Abdulaziz Al Saud (as of April 1, 1997): 6,233,550 (5.0%)

Shares of Apple stock held by American Express (as of December 31, 1996): 10,765,915 (8.6%)

Shares of Apple stock held by American Express (as of February 10, 1997): 2,017,721 (1.6%)

Shares of Apple stock held by Apple Chief Financial Officer Fred D. Anderson (as of October 31, 1996): 0

Shares of Apple stock held by father-of-a-MacAddict-editor Frank Echler: 100 (0.00008%)

Shares of America Online stock held by Apple (as of January 31, 1996): 4,000,000 (4.6%)

With slight apologies to *Harper's*. Sources may be found on the MacAddict Web site. —MS

REASON 32

WHY THE MAC IS BETTER THAN A PC

The Mac has a real desktop. On a Mac, if you have multiple partitions or other mounted volumes, you can simply drag a file or folder from any of them and place it on the desktop. Under Windows 95, if you drag a file from a partition or other drive onto the desktop, Windows 95 actually copies the file to a folder on the boot drive. Thus, you can end up with multiple copies of an item—a potential version-tracking problem. Worse, if your boot volume is full, you can't drag anything to the desktop.

UNCLE MAX WANTS YOU!

Despite what CompUSA thinks, there's a lot of stuff that comes out for the Mac. We here at MacAddict are always on the lookout for talent, so if you think you have what it takes to write a review, let us know. "I like games" is not sufficient qualification. Right now, we need people who are knowledgeable about scientific applications. If you know a Fourier transform from a volumetric integral, please send a cover letter (and clips if you have them) to: Reviews, MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

Only A Fool Tries To Solve Problems With Handguns...Large Caliber Automatics Do The Job Much More Quickly!

"Absolutely the best first-person game of the year, bar none...Duke Nukem is the undisputed king."

Boot Magazine

"Gives players something they can't get elsewhere: A hero with an attitude."

Wall Street Journal

"★★★★★" (5 out of 5 stars)

PC Games

"★★★★★" (4 out of 4 stars)

Computer Life

"Duke is king."

Computer Gaming World

"A perfect 10!"

Computer Player

#1

Selling PC Game
of 1996

Available in June
for Macintosh

ATOMIC
EDITION

DUKE NUKEMTM

3D

Available at

electronics **EB** boutique[®]

800-800-0032

for Macintosh[®]

Created by

3D
REALMS

Mac version by

Lion[®]
ENTERTAINMENT, INC.

MacSoft[®]

2300 Berkshire Lane No., Plymouth, MN 55441 • 612-509-7600
Call for a free catalog or visit our website at www.wizworks.com

System Requirements: Any Macintosh with a 68040 or higher microprocessor, 8MB RAM, color monitor and CD-ROM drive. Also accelerated for Power Macintosh.



cravings

Six of the top products that we can't wait to have, use, and toy around with.

SyJet

SyQuest Technology

The life of an industrial spy is never easy, what with all that paperwork and those little yapping dogs. Well, that's tough enough, but to put the burden of storing all that stolen audio, video, and files on high-density floppy disks—that's just too much to endure. Before you quit your day job and take up freelance work for the IRS, check out SyQuest's SyJet drive.

This removable-cartridge hard drive may be the answer to all your storage needs. For only \$399

for an internal SyJet (or \$499 for an external one), you can store two hours of high-quality audio, 80 minutes of broadcast-quality video, or 1,500 24-bit pictures on one 1.5GB cartridge. That's right—1.5 gigabytes. The SyJet

is no slouch in the speed department, either. With a sustained data transfer rate of 7MB per second and a seek time of less than 12ms, the SyJet performs

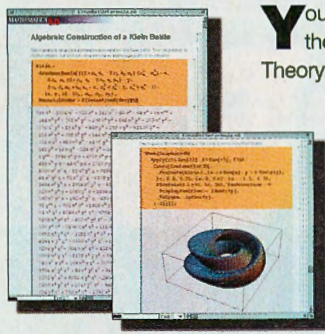
like a hard drive. Best of all, SyJet cartridges are cheap, typically costing 8

cents per megabyte or less. Call 510-226-4000, or point your browser to <http://www.syquest.com> to discover a better way to store all that borrowed data.

PSST! WANNA BUY SOME STORAGE?

Mathematica 3.0

Wolfram Research



You've been itching to try out those new Grand Unified Theory equations and finally show that simpering wimp Einstein who's boss, but you've lacked the tools. Specifically, you failed ninth-grade algebra, and frankly, the scientific community won't take you seriously because of that. Sheesh. Make one mistake, and they never forget. Well, with a little help from the newly debuted Mathematica 3.0, they won't forget your brilliance, because now you can concentrate on your theories and leave the math to your Mac. Mathematica 3.0 includes

250 new functions, speedier compilation, and high-quality editable mathematical expressions for when you choose to print your findings. If you're looking to publish your results on the Web (and who isn't nowadays?), Mathematica 3.0 includes methods for producing Web-publishable documents. For information on how you can take your rightful place in the mathematics community, call Wolfram Research at 800-441-6284, or go to <http://www.wolfram.com>. Now if you can just remember where you put your algebra notes....

KNOCK OFF EQUATIONS WITH ASTONISHING EASE.

TelePort 56

Global Village Communications

Your basement is a museum of dead-end technology.

Whenever two competing gadgets come on the market, there you are, at the head of the line, salivating at the prospect of putting down your hard-earned lettuce for a new toy. You pick one, and sure enough, everyone else chooses the other, leaving you high and dry. Well, that doesn't have to happen with the new 56Kbps modem technologies, thanks to Global Village. The

company offers x2-compatible and K56flex-compatible modems, and you can choose

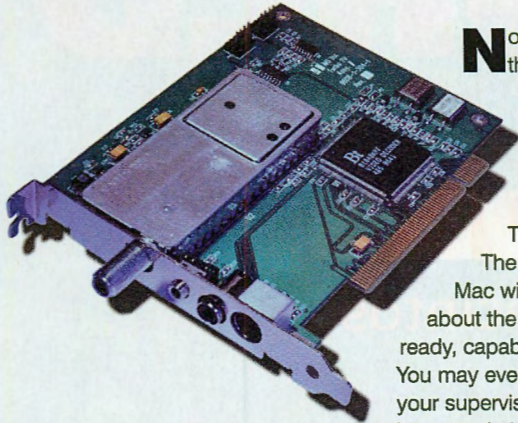
YOUR CHOICE OF SPEED DEMONS.

the one your ISP uses. But what about compatibility? you may ask. Both modems offer 33.6Kbps data speed and 14.4Kbps fax speed, so you'll still get a speedy connection no matter what kind of modems you connect to. The Global Village duo also offers upgradable flash ROM, Caller ID, and fax software. With a price of only \$219, you may just want to buy them both and be sure you'll never be left in the technology backwaters again. Wade through the Beta tapes littering the floor and contact Global Village at 800-736-4821, or surf to <http://www.globalvillage.com> for more information.



KleinInvariantJ





No question about it: *Northern Exposure* was the best show ever broadcast, not that those fools at CBS ever truly understood that. But you're not bitter. Not since a local independent UHF station started broadcasting the syndicated reruns. You could even put a stop to your letter-writing campaign, but for one small problem: The show airs daily at 2 p.m., when you're tied to your Mac in your cubicle, and your supervisor doesn't share your passion for all things. Don't take it out on your co-workers. Instead, get

TurboTV from Integrated Micro Solutions.

125 CHANNELS ON YOUR DESKTOP.

The TurboTV PCI card brings video to your

Mac without involving the CPU, which means you can continue to work while Chris talks about the intricacies of the American electoral system. For only \$169, the TurboTV is cable ready, capable of receiving 125 channels, and supports stereo sound playback and recording. You may even be able to hook into the company's closed-circuit TV cameras and see what your supervisor does during the sacred hour. Call 888-467-8282, or go to <http://www.integratedmicro.com> to liberate yourself from the shackles of television schedules.

Sports Contour Wrist Pads

Kensington

There's something comforting about curves. Staring out at the rolling, golden hills outside of Red Bluff, examining the bend in the body of a guitar, watching as cars hug the hillside along the coastal highway—that's magic. Some have suggested you have a condition, but to you, it's meditation. Now, simply sitting down at your keyboard can take you to a higher level with Kensington's Sports Contour Wrist Pads. These soft neoprene pads feature gently curving lines and a nonslip surface on the bottom to keep them in place.

SLEEK, SOFT, SENSUAL SUPPORT.

Kensington's line will outfit any Mac user with wrist pads for the

desktop, mouse pad, and PowerBook. As an added bonus, you'll get comfort not only from the curves but also from the support that the pads deliver to your wrists as you use your Mac. Prices range from \$18.95 to \$43.95, so the Sports Contour line won't even cause discomfort for your pocketbook. For more information, call 800-535-4242, or go to <http://www.kensington.com>.



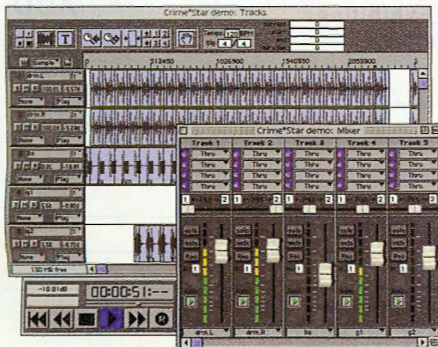
Deck II 2.6

Macromedia

It's no secret. These days, you have to actually produce and sell recorded music to make it as a band. That's all well and good, but with your busy schedule as international trade representative to Micronesia, you don't have much free time to edit your tracks for your first CD release. Macromedia's Deck II handles both sound editing and speed with elegance. For a mere \$319, you can take advantage of the speed just waiting in today's multiprocessor Macs to do your sound work. You can edit up to 999 16-bit digital audio

AUDIO PRODUCTION IN A BOX.

tracks and play back up to 64 of those tracks at the same time. When that big movie soundtrack deal comes through, you'll be ready to go with full SMPTE synchronization and support for standard MIDI files. You also can edit your waveforms and automate your fader controls with ease. And if you decide to buy new hardware (from Micronesia, of course), simply download new plug-ins from Macromedia's Web site instead of having to upgrade the entire Deck II application. Call Macromedia at 800-470-7211, or surf to <http://www.macromedia.com> to launch your audio career. —David Reynolds



MACWORLD

E
X
P
O

Unleash the **POWER**
of your Macintosh

BOSTON & SAN FRANCISCO



With so many products available to boost performance and creativity, your Mac has never had more potential than it does today. See the best and latest of these enhancements at MACWORLD Expo/Boston!

The product offerings at retail stores are no match for the breadth of choice you'll find at MACWORLD Expo. Catalogs may offer variety, but no opportunity to see demonstrations or ask questions. Only MACWORLD Expo lets you experience the full scope of Mac computing, with thousands of solutions for:

- Web site design and Internet navigation
- publishing, entertainment and multimedia
- networking, enterprise-wide connectivity, and intranets
- education, R&D, research
- business and telecommuting

The Mac universe is 60 million users strong. Rub shoulders with thousands of the most innovative, ingenious, and committed users at MACWORLD Expo. Network at special interest areas and pavilions that are free to all attendees. Learn from the experts... keep abreast of trends... maximize your Mac investment in more than 80 conference sessions.

MACWORLD Expo opens your mind to new horizons accessible only through your Mac.

**INQUIRE TODAY
FOR MORE
INFORMATION
ON MACWORLD
EXPO.**

**Macworld
EXPO**

**See us on the WWW at:
[http://www.mha.com/
macworldexpo/](http://www.mha.com/macworldexpo/)
or call: 800-645-EXPO**

Please send more information on MACWORLD Expo

- ☐ Boston ☐ San Francisco
☐ Attending ☐ Exhibiting

ADD

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone _____ Fax _____

email _____

Mail to: MHA Event Management, 1400 Providence Highway,
P.O. Box 9127, Norwood, MA 02062. Or Fax to: 617-440-0357

THIS IS NOT A REGISTRATION FORM.



"WOMAN WITH A FLOWER" by PAUL GAUGUIN 1891



"BALL AT THE MOULIN DE LA GALETTE" by PIERRE AUGUSTE RENOIR 1876



"LINKS LS MACINTOSH" by ACCESS SOFTWARE INC. 1997

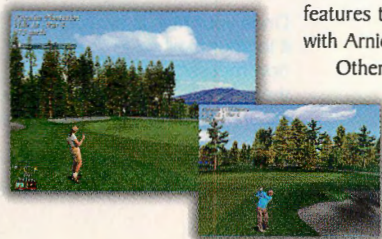


EW LINKS LS FOR THE MACINTOSH—TRULY A WORK OF ART

Seconds after Links LS Macintosh lights up your screen you may feel compelled to frame it. With up to 16.7 million colors, nothing compares to the detail in every leaf, blade of grass, and skyscape on the newest addition of the world's most award-winning line of golf simulators.

Links LS Macintosh proudly features the Grand Master of Golf, Arnold Palmer. You'll marvel as the legendary Arnie tees off as a movie-quality 30 frame per second animation. Packed with 54 of the most beautiful holes in golf, Links LS Macintosh features the Kapalua Plantation and Kapalua Village courses in Maui, along with Arnie's home course at Latrobe Country Club, near Pittsburg.

Other features include modem/network play, fog and microtextured grass, more realistic ball-flight dynamics, 3D virtual reality tours and exclusive multimedia footage. For more information call 1.800.800.4880 or visit us at www.AccessSoftware.com. Frame not included. Requires PowerPC



LinksLS
Macintosh



ACCESS
SOFTWARE INCORPORATED

4750 Wiley Post Way, Bldg. 1 Ste. 200
Salt Lake City, Utah 84116
801.359.2900 Fax 801.359.1273

How to

AUTOMATE YOUR MAC

By Joseph O. Holmes

Illustrations by Lloyd Dangle

Teach your Mac to make itself useful—in eight easy lessons!

Are you the kind of person who should be using macros? To find out, take this simple quiz:

Do you use a Mac more than 10 minutes a day?

Yes, I do! (3 points)

No, I don't. (0 points)

Now total your points. If you scored 3 points, macros are for you!

Installing a macro utility such as KeyQuencer, QuicKeys, OneClick, or Tempo II Plus is like hiring an invisible software butler who dashes off to do your Mac errands any time you shout an order. Macros perform acts as simple as launching an application, emptying the trash, or typing your Web page URL or name and address. Or they can do things as complicated as applying a series of filters to a whole batch of Adobe Photoshop graphics and saving each one in a certain format; or running a series of searches and replaces through a Microsoft Word document. Long ago, in the days before WYSIWYG Web page applications such as Adobe PageMill—that is, last year—I created a macro that, with the press of a single key, turned tab-delimited text into a fully formatted HTML table for my Web page.

Macros are created by stringing together commands that run applications through the Mac's interface. Whatever you can do with menus, windows, buttons, and typing, you can run with macros. Most macro utilities use a scripting language—a bit like a



1. Auto Startup/Shutdown

Make your Mac turn itself on in the morning with any of several common utilities.

2. Morning Mail Run

Once your Mac is awake, send it to your mailbox to check for new messages and download them. Then you can drink coffee leisurely and read your mail.



3. Creating the Macro

Here's where the fun starts. It's time to start creating your macro—writing scripts that tell your Mac what to do.



4. Traffic Control

Not everything in your script can run at once or mass confusion will reign. Learn how to control which script runs and when.



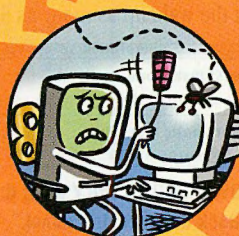
5. Launch Time

You've written your script and worked out its timing. Now it's time for the maiden voyage.



6. Testing

Try running your script under a variety of conditions. What happens, for example, if an application displays an unexpected dialog box?



7. Debugging

Assuming your first script isn't perfect (and chances are it won't be), you'll need to tweak it a bit.



8. You're Now a Macro Addict!

Voilà! With one macro under your belt, you're ready to go hog wild, automating everything in sight. Have fun!



FIND DEMOS, shareware, and scripts on The Disc.



FIND OTHER GREAT SCRIPTS and links to more resources on our Web site.

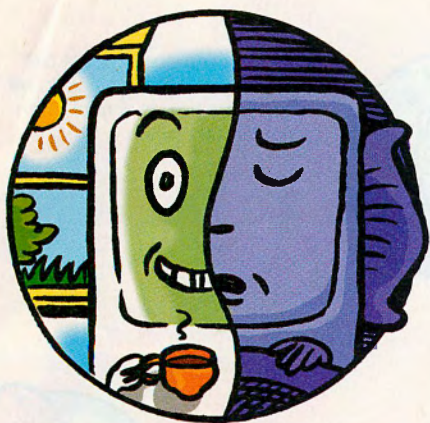
programming language but so much simpler that you'll be able to use it within minutes. When you get good at macros, you'll be whipping them together in minutes to handle one-time repetitive tasks.

Macros most commonly are triggered by pressing a key command, such as Control-R or Command-Shift-P, but they also can be triggered automatically on a schedule, at certain events such as startup or shutdown, from a submenu, or even from a dialog box list. OneClick macros are triggered by clicking buttons on floating palettes you create. Macro addicts (not to be confused with Mac addicts, though you can be both at once) routinely have dozens, even hundreds, of macros assigned to the Finder and every application.

To help you learn to create macros, we'll take you step by

step through one big macro—one that shuts down your Mac at night, starts it up in the morning, opens your PPP connection to the Internet, collects your email, closes the PPP connection, and announces that your mail is ready. In this macro, we'll touch on most of the basics of macro construction. Pay attention and you'll pick up all the techniques you need to start creating macros on your own.

The tutorial uses WestCode Software's excellent macro utility OneClick, but we'll give you tips on how to use the other recommended utilities—Binary Software's KeyQuencer and CE Software's QuickKeys. Along the way, we also will give you tips on how to automate other applications and tasks. Once you're hooked on macros, you'll find them so useful that you'll sorely miss them if you ever need to live without them.



1. Automatic Shutdown and Startup

The first step in automating your Mac is to shut it down at night after you've gone to bed and start it up in the morning before you've even changed out of your jammies. You can schedule a Mac's automatic shutdown and startup with Apple-brand control panels or with PowerKey, a hardware/software combination from Sophisticated Circuits (800-827-4669, 206-485-7979, <http://www.sophisticated.com>). Because we're talking about controlling an unattended Mac, you'll also want to take a

Hot Tip:

You don't need a macro to do automatic email runs with Eudora Pro, AOL, or EMailer; you can schedule these pro-

grams to pick up your email automatically as long as the application is already running. Our macro launches the applications, and it can perform tasks that can't be scheduled. It's also available at any time with just one command.



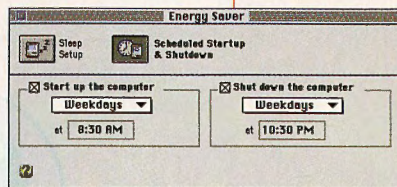
look at a selection of shareware utilities that help smooth the shutdown and startup processes. (See "You Needn't Be Present to Win!" below.)

Let's Do It!

You have three main alternatives for automating shutdown and startup. Any of the three will work just fine.

1. The Simple and Free Route:

Use Apple's Energy Saver 2.0 control panel. If your Mac came bundled with the Energy Saver control panel, as most PCI-based Macs do, you can use it to set a daily time for shutdown and startup. If you don't have a copy, you can find it in



THE EASIEST WAY: Apple's Energy Saver.

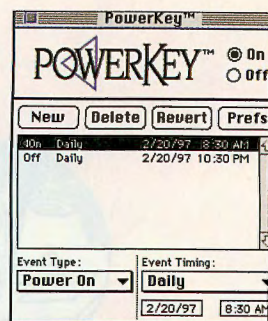
Apple's System 7.5 Update 2.0.

An older (and buggier) Apple control panel, Auto Power On/Off, does essentially the same thing with older, non-PCI-based Macs. Note that Apple's Energy Saver 1.0, CPU Energy Saver, and the shareware program Sleeper don't start a Mac.

2. The Powerful but More Costly Route:

Use PowerKey (\$70) from Sophisticated Circuits. PowerKey looks a lot like a simple power strip, but its main trick is turning on and off all its power outlets (i.e., your

peripherals) with a press of your Mac's power-on button. It's less well known that PowerKey lets you set shutdown and startup times and does other tricks such as check for a crashed Mac. We highly recommend PowerKey.

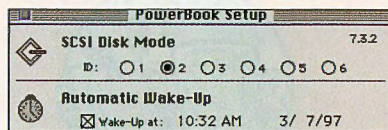


THE ELEGANT WAY: Sophisticated Circuits' PowerKey.

3. The PowerBook Route:

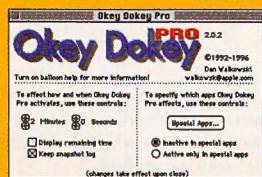
Use Apple's PowerBook Setup control panel. Some PowerBooks, but not all, allow you to set a single wakeup time in the PowerBook Setup or

Portable control panel (not the PowerBook control panel). Open your PowerBook Setup control panel and check for this feature. A slick little application called Insomniac (shareware by Jeremy Kezer, \$10) lets you repeat the wakeup as many as 50 times.



THE POWERBOOK'S ONLY WAY: the PowerBook Setup control panel.

You Needn't Be Present to Win!

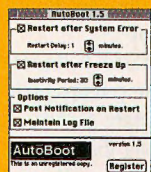


OKEY DOKEY PRO

1. Any unattended Mac should be running **Okey Dokey Pro** (freeware by Dan Walkowski), a control panel that looks for modal dialog boxes and automatically clicks the default button after a configurable elapsed time. Before Okey Dokey, I used to return to my Mac to find it sitting there waiting for me to dismiss some ridiculous dialog—yes, I already know that the contents of my RAM disk will be lost! Yes, I know that another Mac has disconnected from the network! Cool feature: Okey Dokey saves a snapshot of every dialog it dismisses so you know what happened in your absence.

2. **OncePerDay** (shareware by Jason Collins, \$10) lets you pick items in your Startup Items folder to be launched only at the first startup every day. If you need to restart your Mac later in the day, the startup items won't relaunch. This is perfect for any first-thing-in-the-morning macro (though only QuickKeys and KeyQuencer create stand-alone macro applets).

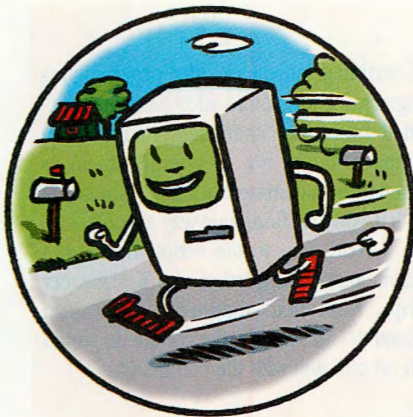
3. **Delayed Startup Items** (shareware by Josh Adams and Eric Hanson, \$8) delays the launching of Startup Items until an idle time later. This speeds startup when your Mac isn't unattended.



AUTOBOOT

4. **AutoBoot** (shareware by Karl Pottie, \$20) automatically restarts your unattended Mac after a System crash or freeze.

5. **Cron** (shareware by Chris W. Johnson, \$10) is a simple timer utility that can launch applications—including AppleScript applets and KeyQuencer macros—at set intervals or times of the day. The similar **Coffee Timer** (shareware by Alessandro Levi Montalcini, \$10) doesn't trigger at a time of day but counts down from a number of minutes you set and then triggers KeyQuencer macros.



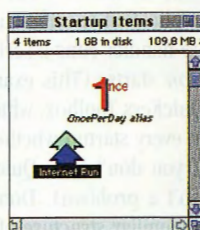
2. Morning Mail Run

Now that your Mac starts all by itself every morning, you can make good use of the machine before you even apply Crest to your toothbrush. You'll do this with a macro, which you'll set to run automatically at your Mac's startup. The *MacAddict*

macro—let's dub it Internet Run—is a sequence of commands to (1) open your PPP connection to the Internet, (2) launch Claris EMailer (or Qualcomm's Eudora Pro, or America Online) and download your new email, (3) wait until the online tasks are finished, (4) close your PPP connection, and (5) put up a dialog box to announce that your mail has been checked. We'll also touch on related tasks you can add to Internet Run, such as how to use CompuServe's MacNav to make a pass through your favorite CompuServe forums.

Let's Do It!

There's a small variety of ways to run the Internet Run macro every morning just after your Mac starts. First, some macro utilities let you create stand-alone macros, or *applets*—macros

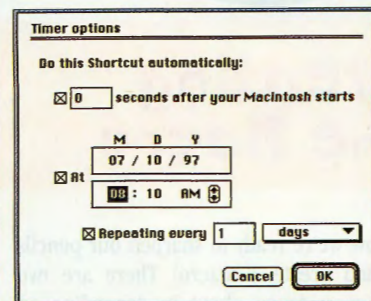


DROP STAND-ALONE macros into the Startup Items folder.

represented by an icon that launches with a double click. Just drop a stand-alone macro into the Startup Items folder in your System Folder. Second, if your macro utility can schedule macros for a set time of day—and all but KeyQuencer can—you can schedule the macro to run at, say, 10 minutes after your scheduled morning startup time. Finally, QuickKeys and OneClick let you schedule a macro to run at a certain time of day, say a few minutes after your Mac starts.



macros



QUICKKEYS HAS scheduling options.

Hot Tip:

You can drop macro applets into your Apple Menu Items folder or your Shutdown Items folder.

Ten Must-have Macros

1. Reassign the greater-than and less-than keys.

Tired of typing "U.S." and seeing "U>S>"? Reassign the keystrokes you use to make the greater-than and less-than signs (Shift-period and Shift-comma, respectively) to a period and a comma. Then reassign the greater-than and less-than symbols to other, little-used keys.

2. Fix typos.

The most common typo is a simple transposition of two letters. Use this sequence for a quick fix: When the cursor is placed immediately after the typo, select one letter to the left, cut, move one letter back, paste, move one letter forward. In an application such as Microsoft Word, it's: Shift-back arrow, Command-X, back arrow, Command-V, forward arrow.

3. Toggle your PPP connection.

KeyQuencer uses a dedicated command to toggle your PPP connection on and off. With others, open the control panel and click the Connect button.

4. Switch bit depth.

Most macro utilities switch your monitor's bit depth with a dedicated command. For example, KeyQuencer's dedicated command "Monitor depth 16" lets you switch to thousands of colors from another setting.

5. Automate your email signature or name and address.

This is easy since all macro utilities type text on command. Try this sly trick to fill in the blanks in Web page forms. Type first name, tab, last name, tab, street address, tab, city, tab, state, tab. This sequence will work in maybe half the forms you find. In the rest, well, at least you've saved some typing.

6. Assign the Save As key to Option-S.

A universal macro to trigger Save As with Option-S is very useful.

7. Clean up email.

Email arrives with a hard return at the end of every line and two returns

between paragraphs. Clean it up with one keystroke. In Word: Open the search and replace dialog, search for two returns in a row, replace them with any odd string of characters (I use /**/), hit OK, and wait for the dialog that says the job's done. Now search for remaining returns, and replace them with a space. Finally, search for /**/, and replace them with double returns. With OneClick's advanced scripting language, you can do the whole thing in the Clipboard, using functions such as Find, Replace, and Trim.

8. Mount a remote volume.

If you created an alias of the volume, your macro simply can launch the alias.

9. Rotate through windows.

The macro utilities make it easy to rotate through all of an application's windows. In KeyQuencer, for example, it's simply "SelectWindow last quiet" (the "quiet" parameter tells KeyQuencer not to throw up an error dialog if there is no other window). In OneClick, it's "Window(2).Front"—though this may rotate through toolbars as well.

10. Turn a selection into a printed address label.

If you have a method of printing address labels, you can make a macro that copies any text you select and applies the method. The macro can even pause to show a dialog box that says, "Please put labels in the printer."

Bonus: Log off after a download:

Make a macro that watches a long Fetch or Netscape Navigator download and closes the PPP connection when the download is done. In OneClick, use the While command. In Fetch, the macro need only wait for the beep. In this example, OneClick checks once a minute for the existence of a Navigator download window (which always begins with "Save"):

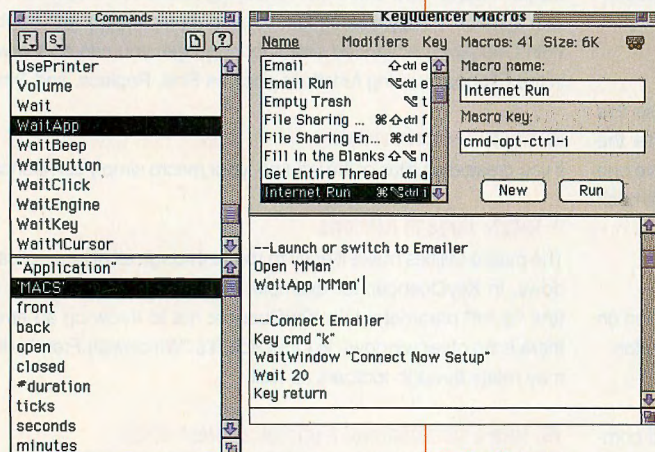
```
While Window("Save*").Exists
Pause 600
End While
Call "Close PPP Connection"
```




3. Creating the Macro

Now we're ready to sharpen our pencils and create a macro! There are two basic ways to go about it, depending on which macro utility you've chosen: by typing out the macro scripts or by recording the macro functions.

QuicKeys, OneClick, and Affinity Microsystems' Tempo II Plus let you record your macros. Turn on a "watch me" mode, and the utility watches and records everything you do until you turn it off. If, say, you



want to create a macro that prints a document and then closes it, you'll turn on the "watch me" mode, then just print the document and close it. Even after you've recorded a macro, odds are you'll need to tweak the script.

OneClick and KeyQuencer let you type your script into a script editing window, and each utility includes help text so you don't have to keep the manual open by your side. KeyQuencer does OneClick one better by letting you double-click on a command in the help window to

automatically add it to the text of your script. For this tutorial, you'll write a script rather than record it, but you may want to record parts anyway. Recording your actions both saves you time and helps you avoid typos.

Let's Do It!

This OneClick script runs every time the Mac starts up. A OneClick script will run automatically if it starts with "On Startup" and ends with "End Startup". Because the script is part of a *global* set of macros, not an application-specific set, the startup handler runs the macro when the *Mac* starts. On an application-specific macro palette, the startup handler runs a script when the *application* starts. (This example script quits the QuicKeys Toolbox, which QuicKeys launches at every startup whether you need it or not. If you don't have QuicKeys, of course, this isn't a problem). Don't freak out over the unfamiliar structure of this script. After you spend a few minutes with OneClick's EasyScript, it all becomes much more clear.

```
On Startup
Process("QuicKeys Toolbox").Front
Wait (Process.Name = "QuicKeys Toolbox")
Process("QuicKeys Toolbox").Quit
Wait DialogButton("OK").Exists
SelectButton "OK"
End Startup
```

WRITING A SCRIPT means, well, writing! Once you get the hang of it, you'll find that the words are quite intuitive.

Your Comments, Please

All scripting languages, like programming languages, allow you to add comments, preceded by special characters so the script compiler knows not to interpret them as commands. A comment annotates the script so that you can find your way around—it's like a road map to the script. Below is a heavily annotated portion of a KeyQuencer script. Note that comments are shown indented—in real life, the comments would run on one line with the command.

```
--Let's open our PPP connection
Open panels "PPP"
WaitWindow partial "PPP" - "partial"
    matches either window
Button "Connect" quiet continue - Click
    the Connect button
WaitButton "Disconnect" - And wait for
    the Disconnect button
```

Get into the habit of adding comments to scripts. It may not seem important when your script is just a few lines long, but even a couple dozen lines can become inscrutable without comments.

Hot Tip:

When recording, you'll get more accurate results if you use keyboard commands whenever possible. Mouse clicks are too context insensitive.

New Set...	
Open Set...	⌘O
Close Set	⌘W
Delete Set	
Save Set	⌘S
Make Icon...	⌘I
Import Shortcut(s)...	
Export Shortcut(s)...	
Extension Manager...	
Page Setup...	
Print...	⌘P
Quit	⌘Q

TO MAKE A STAND-ALONE macro with QuicKeys, simply use the Make Icon command.

In KeyQuencer:

Make a stand-alone macro by creating a new "suitcase" in the KeyQuencer editor. Make the suitcase contain just one macro, and then drop the suitcase into your Startup Items folder.

In QuicKeys:

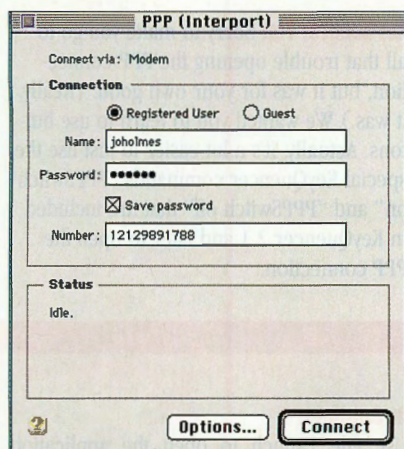
Use the Timer Options to set the macro to run at a specific time, say, 8:10 a.m., so that the macro doesn't run every time you restart. Alternately, create a stand-alone macro by using the Make Icon command. After you're done, drop the macro's icon into your Startup Items folder.





4. Traffic Control

To open your PPP Internet connection, you need to create a macro that opens Apple's OT/PPP control panel, waits for the window to appear, clicks the Connect button, and then waits for the Internet connection to become live before moving on to the next task in your list.



OUR MACRO NEEDS TO WORK with this PPP dialog box.

Let's Do It!

Step 1. Open the PPP control panel.

Every macro utility lets you launch applications and control panels. In script macro utilities such as OneClick and KeyQuencer, use the Open command and then specify either the application's four-character creator signature or its pathname. Normally, it's better to use the signature, because it ensures that the macro won't break if you move applications to new folders or rename your hard drive.

You can't, however, use the signature here, because all control panels have the same signature, "cdev," so instead you'll need to specify the correct pathname for the

PPP control panel: "Hard Drive:System Folder:Control Panels:PPP". You can type the path or have OneClick insert it for you with the File command under the Parameters menu.

In OneClick:

Open "Hard Drive:System Folder:Control Panels:PPP"

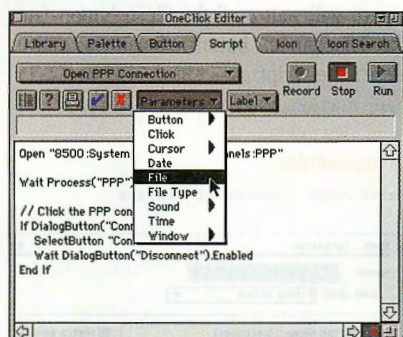
In KeyQuencer:

Open "Hard Drive:System Folder:Control Panels:PPP"partial

(The "partial" parameter tells KeyQuencer to match "PPP" even if that's only part of the window name. The macro thus will work whether the window is titled "PPP Interport" or "PPP CompuServe".)

In QuickKeys:

Use File Launch to open the PPP control panel.



ONECLICK'S PARAMETERS MENU helps with tasks such as inserting a file's pathname and creator signature.

If you're feeling adventurous, try to improve OneClick's script. Even without a signature, you can change the Open command to make it work on any Mac, no matter what path leads to the PPP control panel. OneClick's FindFolder function identifies many folders, no matter what the pathname: `Open (FindFolder "ctrl") & "PPP"`

Step 2. Use the Wait command.

The Wait command is the macro artist's most important tool. Macros run much faster than you can possibly work, so unless you tell them to wait, they'll run through all their steps before the first window has even appeared on your Mac. For that reason, all macro utilities include a variety of Wait commands to wait for windows, buttons, menus, and applications to appear.

It's important for the macro to wait until the PPP control panel has appeared before it attempts to click any buttons. Notice here that OneClick's scripting language works with "objects" (such as windows), processes (which usually are applications), buttons, and

menus. Your script specifies which objects you're working with and applies commands to those particular objects. Here's the OneClick Wait statement, which waits for a process (in this case, it's a Control Panel) named "PPP":

```
Wait (Process.Name = "PPP")
```

We also could have waited for a window titled "PPP":

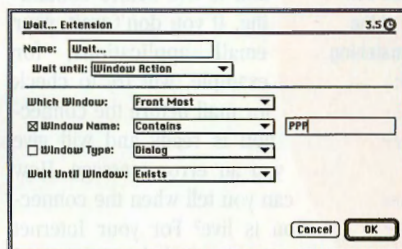
```
Wait (Window.Name = "PPP*")
```

In KeyQuencer:

```
WaitWindow "PPP" partial
```

In QuickKeys:

Use a Wait Extension to wait for the PPP window to open.

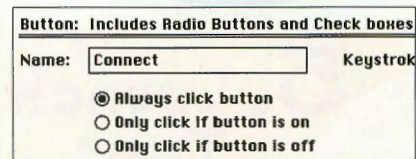


WITHOUT THE WAIT COMMAND, the macro would get ahead of your Mac, and nothing would work correctly. Shown above is the QuickKeys wait command.

Step 3. Click the Connect button.

You might guess that a macro can click anywhere on the screen, including on a button. Indeed, you can record a click on any button, and the macro will probably work. The risk is that the window may move or be resized, and the click will land on empty space or even on a different button. It's much more reliable to click a button by name, no matter where it is in the window. All the macro utilities let you click buttons by name.

Set up your macro utility to click specifically on the Connect button in the PPP control panel. That way, once the PPP control panel appears, your Internet Run macro will click the proper button, no matter where the dialog box appears onscreen.



MACRO UTILITIES can click buttons by name—a much more reliable method than recording mouse clicks based on where the button is physically located onscreen.



In OneClick:

SelectButton "Connect"

(Check the section on debugging on page 45 for a more bulletproof script that first will check to be sure the Connect button exists.)

In KeyQuencer:

Button "Connect"

In QuickKeys:

Use a button action to click the Connect button.

Hot Tip:

For mailing lists, here's a macro that uses EMailer's Find command to jump from text selected in the contents at the start of the message to the matching entry in the body:

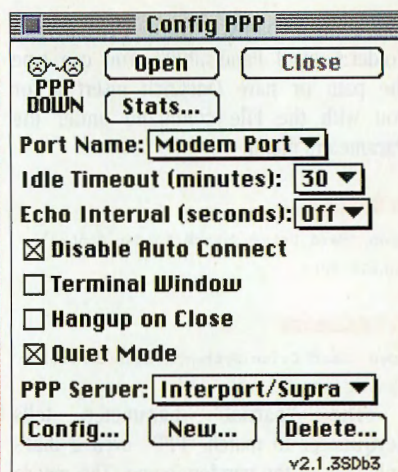
```
Type Command "c"
Type Command "f"
Wait Window
("Find").Exists
Type Command "v"
Type Return
```

Step 4. Wait for the PPP connection.

After clicking the Connect button, the macro will wait for a sign that the connection is live before continuing. If you don't wait, your email applications, for example, will try to check for mail before the connection is ready and will give you an error message. How can you tell when the connection is live? For your Internet Run macro, watch the PPP control panel during a connection. The Connect button changes to Cancel and then changes to Disconnect. That's your signal!

Here's the OneClick Wait statement, this time using a DialogButton object—the Disconnect button:

```
Wait DialogButton ("Disconnect").Enabled
```



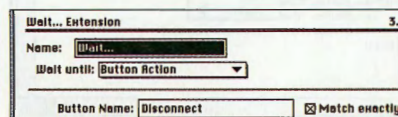
IF YOU ARE USING the Config PPP control panel, the macro will wait until the Close button is active.

If you use the Config PPP control panel instead of Apple's OT/PPP control panel, the macro will wait until the Close button (not the Disconnect button) becomes active. Here's the script:

```
Wait DialogButton("Close").Enabled
```

In KeyQuencer:

```
WaitButton "Disconnect" exists
```



IN QUICKKEYS, you'll use the Wait command to wait until the Disconnect button becomes active. That's called a *button action*.

Creative Macro Thinking

When creating macros, watch your applications carefully for any sign that the conditions are right for the macro to continue. An application's interface changes in subtle ways all the time. Here are some common things to look for:

- Buttons—whether they exist or change, are enabled or disabled, whether a radio button or checkbox is selected
- Menus—whether a selection exists, whether it's checked
- Windows—whether one appears, the title, or the type of window
- Cursors—when the stopwatch, for example, appears or disappears
- Beeps—signals that an operation has ended.

You can, for example, tell when a dialog box has appeared by looking for the OK button:

```
Wait Button("OK").Exists
```

In QuickKeys:

Use a Wait Extension to wait for the Disconnect button.

KeyQuencer Tip: Sorry to make you go to all that trouble opening the PPP connection, but it was for your own good. (Really, it was.) We wanted you to learn to use buttons. Actually, it's a lot easier to just use the special KeyQuencer commands "PPPSwitch on" and "PPPSwitch off" that are included in KeyQuencer 2.1 and later to open the PPP connection.



5. Launch Time

Now that your Internet connection is live, the macro will launch Claris EMailer, wait

for it to fully appear, then use EMailer's built-in shortcuts to send it off to collect your email. Before too long, you'll have the day's mail to pore over!

Let's Do It!

Step 1: Launch the applications.

This OneClick script launches EMailer or switches to it if it's already running. Then it waits for the application to appear before continuing. (Note that "MMan" is EMailer's signature).

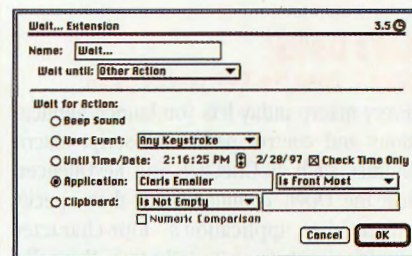
```
If Process("MMan").Exists
Process("MMan").Front
Else
Open (FindApp "MMan")
End If
Wait (Process.Creator = "Mman")
```

In KeyQuencer:

```
Open 'MMan'
WaitApp 'MMan'
```

In QuickKeys:

Use File Launch to open the application Claris EMailer. Use the Wait Extension to wait for EMailer.

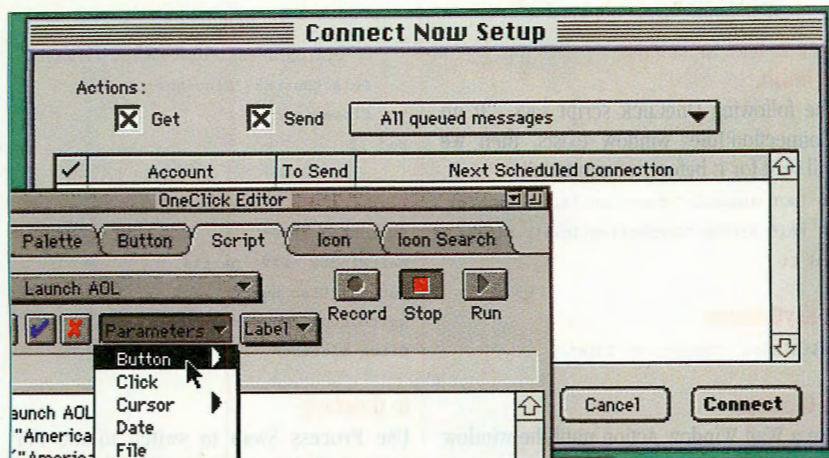


IF YOU'RE USING QUICKKEYS, here are the proper Wait settings to use with EMailer.

Step 2: Connect.

Next you'll open EMailer's Connect Now Setup dialog and click the Connect button. Opening the dialog is easy—use EMailer's built-in Command-K shortcut.





ONECLICK'S PARAMETERS MENU displays the names of all buttons in the active window. Here you can see that it's coming up blank because EMailer buttons aren't standard.

In OneClick:

Type Command "k"
Wait Window("Connect Now Setup").Front

In KeyQuencer:

Key cmd "k"
WaitWindow "Connect Now Setup"

In QuickKeys:

Press Command-K. Use the Wait Extension to wait for the window "Connect Now Setup".

EMailer is filled with nonstandard interface parts. Its Cancel and Connect buttons, for example, can't be found by a macro. Instead, you'll have to fall back on a workaround. Let's have our macro type Return to select the window's Connect button. As insurance, let's add a five-second delay (Pause 50) before the dialog box is

dismissed so that you can manually change the settings if you're watching the connection as the macro runs.

In OneClick:

Pause 50
Type Return
Pause 2

In KeyQuencer:

Wait 5 seconds
Key return
Wait 20

In QuickKeys:

Set the user pause for 5 seconds, then insert a Return keystroke.

Of course, you can avoid the dialog box entirely with EMailer's shortcut Command-Option-K, which connects right away.

Nonstandard Standards

Normally, a macro can find a button by its name and can examine a checkbox to see if it's checked or unchecked. But there will be many times when your macro can't look for a specific window or button because the application doesn't use standard buttons.

Instead, you have to fall back on workarounds. First, you can record a click at the spot where a button exists. Second, and more reliably, you can fall back on menu items and key-command equivalents. Third, you can simply type Return to select a window's default button.

If your macro doesn't recognize a menu item with an ellipsis, such as Print..., remember that the ellipsis is probably a single character, created by typing Option-semicolon, not three periods.

For a universal macro that works whether the ellipsis is a single character or three periods, use a partial menu name (in OneClick: "Print*"; in KeyQuencer: "Print" partial; in QuickKeys: use the "contains" modifier).

Here's a bonus tip: Empty Trash under the Special menu has an ellipsis if it's set to show a warning dialog before emptying; there's no ellipsis if you've set your Mac so that it doesn't display the warning (to do this, go to the Trash's Get Info box and uncheck the "Warn before emptying" box).

Hot Tip:

How to Stop Macro Playback

To stop a macro in the middle of playback do this in each program:

In OneClick:

Press Command-period.

In KeyQuencer:

Press Command-Shift-Return.

In QuickKeys:

Select Cancel Playback from the QuickKeys submenu.

In Tempo II Plus:

Press Command-comma or Command-period.

Six Tips for Automating Online Services

- America Online's first window is called "Welcome," and the button to select to sign on is "Sign on." You can simply command AOL to collect your mail by selecting Run Automatic AOL... from the Mail menu and then clicking the Begin button. You also can do fancier things, such as log on and select and copy current news from a news window, but you'll have to deal with the probability that America Online will present one of its dialog boxes offering to sell you manuals or books or software or hardware or

something else. Too bad dialog boxes can't be used as coasters.

- In CompuServe 3.0 (formerly known as CompuServe Information Manager), use the Send/Retrieve All Mail selection under the mail menu. Also try logging on and retrieving information, such as Roger Ebert's weekly Movie Answer Man.

- CompuServe clue: Every "page" on CompuServe can be referred to by an obscure but unique page name. Ebert's Movie Answer Man, for instance, is MHC-29. Watch the text box for the page's name, then have the macro use a Go command (Command-G). This will reliably take you to individual pages without clicking a lot of buttons and lists.

- CompuServe MacNav's forum "tiles" are essentially nonstandard checkboxes, so there's no easy way to toggle the tiles. You might, however, have your macro open a tile and examine its Forum menu. This line in OneClick, for example, toggles a tile's Do Not Enter the Forum menu item:

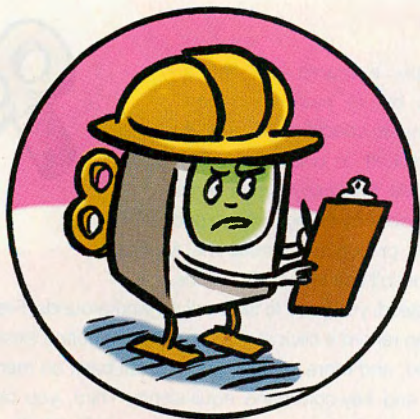
```
SelectPopUp 77, 14 "DO NOT  
ENTER"
```

MacNav signals the end of its session with a beep or dialog box (turn this on in the preferences dialog), an easy way for a macro to tell that MacNav has finished.

- Macros sometimes have a hard time working with the nonstandard menus in Qualcomm's Eudora Pro because the menu item names are

preceded by a null character. In OneClick, use a wildcard character (SelectMenu "File", "Check Mail") to avoid this problem. In KeyQuencer, use menu numbers (Menu 2 4), or add the "partial" parameter (Menu "File" "Check Mail" partial). Either one of these workarounds will do fine.

- Netscape Navigator and Microsoft Internet Explorer are easy to automate with macros because they are almost completely controlled with buttons and text. You might want to create a macro to visit one or two of your favorite sites. You'll find that these browsers will continue to display a site or two offline without complaining or trying to connect.



6. Testing

After your mail has been retrieved, you'll want to turn off the PPP connection. But to do that, you need to know when EMailer is finished. Otherwise, you'll disconnect the PPP connection while the program is still downloading your messages.

Hot Tip:

When Eudora Pro is finished, it displays an alert box announcing, "You have no new mail," or "You have new mail." But it's a nonstandard window, which OneClick and the other utilities have a hard time finding. So instead, look for the OK button that appears in each of those windows.

In OneClick: `Wait DialogButton ("OK").Exists`
`SelectButton "OK"`

CompuServe's MacNav has a preference to announce when it's finished by putting up a systemwide dialog box. Use the same script as with Eudora Pro, which will work even if MacNav is not the front-most application.

In OneClick:

`Process("Claris EMailer").Front`

In KeyQuencer:

`SwitchApp 'MMan'`

In QuickKeys:

Use Process Swap to switch to Claris EMailer. Wait until EMailer is the front-most application.

EMailer doesn't pop up a dialog box or make a beep to announce that it's finished collecting mail. But send it on an email run and watch it finish the session—note that the title of the Connection Status window changes to Connection: Idle. Let's use that as our hook!

Let's Do It!

Step 1: Switch applications.

Before doing anything else, you should set your macro so that it switches to EMailer. There's always a chance that we got switched to another application or the Finder and will need to switch back to EMailer.

Step 2: Wait for EMailer to finish.

The following OneClick script says, "If no 'Connection:Idle' window exists, then we will wait for it before we continue":

```
If (NOT Window("Connection:Idle").Exists)
    Wait Window("Connection:Idle").Exists
End If
```

In KeyQuencer:

`WaitWindow "Connection:Idle"`

In QuickKeys:

Use a Wait Window Action until the window name is "Connect: Idle".

Step 3: Close the PPP connection.

Finally, you'll need to return to the PPP control panel and disconnect.

In OneClick:

Make sure the control panel is open and the Disconnect button exists:

```
If Process("PPP").Exists
    Process("PPP").Front
Else
    Open (FindFolder "ctrl") & "PPP"
End If
Wait Process("PPP").Front
SelectButton "Disconnect"
```

You can use OneClick's conditionals to first check to see if the Disconnect button exists. Why do you need to do that? If your Internet connection has already closed for some reason, the macro will continue on, as a good macro should, instead of waiting forever for the Disconnect button.

```
If DialogButton("Disconnect").Exists
    SelectButton "Disconnect"
    CloseWindow
End If
```

In KeyQuencer:

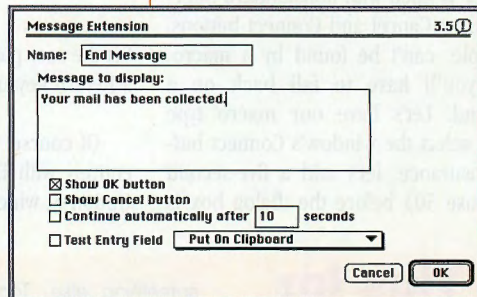
```
SwitchApp "PPP"
WaitWindow "PPP" partial
Button "Disconnect"
WaitButton "Connect"
Click closebox
```

In QuickKeys:

Use Process Swap to switch to the PPP control panel. Use a Wait Window Action until the window name is "PPP". Use a button action to click a button titled "Disconnect". Press Command-W.

Step 4. Your mail is waiting.

Finally, just for fun, let's put up a dialog box announcing that the mail run is finished. Among other things, this dialog box informs you that no errors halted the macro in mid-play. (Note that if you are running Okey Dokey Pro—the freeware from Dan Walkowski—the message will be automatically dismissed.) Note how both OneClick and KeyQuencer allow you to use a function called "time," which



YOU AREN'T REQUIRED to add a notification like this, but it makes for a satisfying ending to your script. This message was set up in QuickKeys.

Go Modular

If your macro utility allows it, make your macros modular. That is, create smaller macros to do simple tasks such as launching applications or opening and closing the PPP connection. Then create larger macros by calling those small tasks. In scripting terminology, these small tasks are called *subroutines*. OneClick's command for calling the smaller macros is, well,

"call"; QuickKeys uses the "Gosub Extension."

Why bother? Consider this: Say you created some large macros to do things such as open up your PPP connection to the Internet and check email, look at a Web site, read your favorite newsgroup, and gather the news from America Online. Now you upgrade to new PPP software, which works differently from your old soft-

ware. If all of your Internet macros call the same Open PPP and Close PPP subroutines, all you have to do is update those two macros. The big macros will then work perfectly.

Or say you upgrade from Eudora Pro 2.x to 3.0. If your big macros all launch Eudora by calling a small Launch Eudora macro, you have to update only that one macro.



returns the current time as read from your Mac's internal clock.

In OneClick:

Message "Your mail was collected by OneClick at % & Time

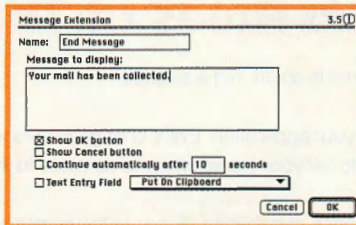
In KeyQuencer:

Message "Your mail was collected by KeyQuencer at \ (time)"

In QuickKeys:

Use a Message Extension with the text "Your mail has been collected!"

Your macro is finished! But that does not mean your work is done. We still have to debug the thing....



QUICKKEYS' JUMP EXTENSION lets your macro allow for unforeseen events—such as an Internet connection that's already live.

Expert Users' KeyQuencer Tip: Use KeyQuencer Errors to Fake a Conditional



macros

A KeyQuencer macro will quit when one of its steps encounters an error (unless you add the "continue" parameter). You can use this fact, combined with the "quiet" parameter, to make a pseudoconditional: KeyQuencer will check for a condition and end the macro if the condition isn't met.

Here's an example that either switches to MacNav (line 1) or opens MacNav by way of its session file if it isn't yet open. The middle line is the key. It checks to see if MacNav is closed (that

is, if line 1 did not open it). If it's not closed, it gives an error after one-tenth of a second, and the error ends the macro, skipping the final step, which would have opened MacNav via its session file. (Tip o' the hat to KeyQuencer whiz Kevin Norris.)

```
SwitchApp 'MNav' quiet continue
WaitApp 'MNav' closed 10 ticks quiet
Open "<Session File path here>"
```



7. Debugging

Your macro doesn't run? Don't worry, and above all, don't panic. Here's what to do:

- Double-check all the pathnames in the script.
- Check the titles of the windows and buttons.
- Check the "grammar" of the script. Reexamine the script commands—and the c o m m a n d s ' spelling.
- Try inserting Message dialog boxes at various points in the script so you can monitor

Hot Tip:

If your macro seems to jump ahead before it has successfully finished some part of its job, try inserting a short, timed pause. A one-tenth- or half-second pause before continuing is often all the breathing room a macro needs.

where the macro is when it breaks.

Or do your macros run fine when you test them but later break unexpectedly? Your macro has run across conditions you did not anticipate. What happens, for instance, when your macro tries to open the PPP connection and the connection is already open? What happens when it tries to log onto AOL and the service pops up one of those delightful dialogs that try to sell you a book? You're going to have watch your macro run a few times and, when it doesn't work, fix the problems.

Bulletproofing your macro may involve using *conditionals*, statements that test conditions so that the macro can react in different ways. Conditionals usually start with "if."

Let's Do It!

The Internet Run macro looks for the PPP control panel's Connect button. If the control panel were already in the process of connecting, or already live, the macro would never find the Connect button, and it would, therefore, wait forever. We need to rewrite it to ask "if."

"If the Connect button exists, I'll press it

and wait for the Disconnect button. If it says Cancel, I'll wait for the Disconnect button to appear and then continue. And if it already says Disconnect, I'll simply continue."

In OneClick:

```
If DialogButton("Connect").Exists
SelectButton "Connect"
Wait DialogButton("Disconnect").Enabled
Else If DialogButton("Cancel").Exists
Wait DialogButton("Disconnect").Enabled
End If
```

In KeyQuencer:

KeyQuencer doesn't (yet) offer conditionals, so we can't use it to branch to different actions depending on which button exists. There is a workaround, however. See "Expert Users' KeyQuencer Tip" at the top of this page.

In QuickKeys:

Use the Jump Extension to jump when the button name matches "Disconnect". You'll want to jump to skip over the steps that click the Connect button and wait for the Disconnect button.

Ask Yourself These Debugging Questions

- What happens to your macro if the applications it launches are already running? Or aren't running?
- What happens to an Internet macro if the PPP

connection is already live? Or is not live?

- What happens to your macro if your application has no open windows? Or the wrong window is at the front?
- What if remote volumes are not mounted?

- What other dialog boxes might appear? Does your Mac occasionally pop up unrequested dialogs?
- Have you added new extensions or applications that put up dialog boxes at startup? What dialogs appear at shutdown?



8. You're Now a Macro Addict!

Our tutorial has given you only a taste of the possibilities. Consider creative ways to use these cool features that (most of) the macro utilities offer:

- **Batch-process** your files—that is, apply a macro to every file in a certain folder. This is especially useful in Photoshop.
- Have your macro put up a dialog with two or three buttons. The macro will perform different actions depending on which button you click for “Would you like to log off after collecting your mail?”
- Drag a file from the Finder onto a OneClick button to have a macro’s action performed on the file. Or drag text onto a button to process the text with the macro.
- Use KeyQuencer’s WaitText command, which looks for text appearing in any window. You can, for example, script telecommunication applications. Here’s one that logs onto CompuServe in ZTerm (I’ve hidden my password, of course):

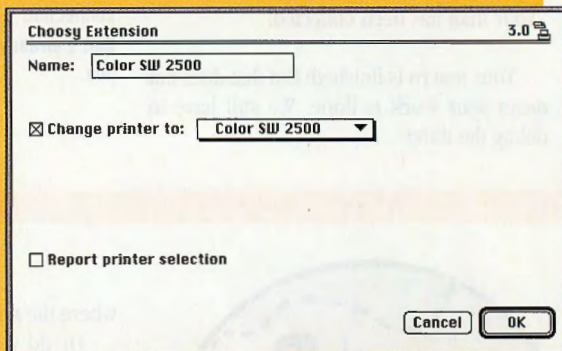
```
Application 'zTERM' only
Type "atdt1 212-593-
3972" return
WaitText "CONNECT"
Type return
WaitText "Host"
Type "CIS" return
WaitText "User"
Type "87654,321" return
WaitText "Password:"
Type "fatchance" return
WaitText "!"
Type "go cis:ebert"
```

So what are you waiting for? Get out there and write some macros of your very own. ☒

Five Macro Rules of Thumb

Remember: Writing macros is an art, not a science.

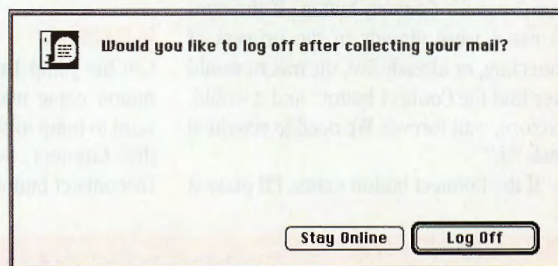
1. Watch the behavior of your application. Every change in cursor, button, window, or menu can be used as a signal to tell your macro when to continue to the next step.
2. Know your macro utility's capabilities. Every utility comes with lots of preconfigured macros as well as specialized commands. Binary Software's KeyQuencer, for instance, has a command called PowerBook, which changes a variety of different Apple PowerBook settings, such as hard drive spindown and screen dimming.
Using dedicated commands is more reliable than trying to control dialog boxes, menus, and buttons. Dedicated commands can, for example, dial the phone (all four utilities reviewed in this article do this), speak text, play macros created in CE Software's QuickKeys, create a random number (WestCode Software's OneClick does this), control an audio CD, trigger a KeyQuencer macro on a remote networked Mac, use the Aladdin Systems Stuffit engine to compress or expand files (KeyQuencer), switch printers, speak text, play a QuickTime movie (QuickKeys), compare bitmap portions of the screen, send faxes, and perform find and replace functions in Microsoft Word or QuarkXPress (Affinity Microsystems' Tempo II Plus).



THE QUICKKEYS CHOOSEY EXTENSION selects a printer at the press of a keyboard command.

3. Record your macro. Even if you love to write scripts, start by recording your actions. If nothing else, you'll save yourself a lot of typing.
4. Study the scripts of prewritten macros that come with the utility, as well as macros created by other people. They teach valuable lessons in script writing.
5. Visit the Web sites of the macro utility makers where users can post and download macros.

MAKE YOUR MACRO INTERACTIVE. You can put up a dialog to give you choices.



Joseph O. Holmes, a *MacAddict* contributing editor, really does use the Internet Run macro every morning, but he says he has no plans to connect his coffee maker to an X-10 module run by a spare Mac II in the basement. Honest.

A Quick 'n' Dirty Guide to Picking the Best Macro Utility

1. Do you have any experience writing scripts, or would you like to learn scripting?
No: QuickKeys.
Yes: Go to question 2.
2. Do you need to control advanced functions or manipulate data within applications such as Claris FileMaker Pro and QuarkXPress?
Yes: AppleScript or UserLand's Frontier.
No: Go to question 3.
3. Do you prefer to run commands from a palette of buttons on your screen or with keyboard commands?
Palette: OneClick.
Keys: KeyQuencer.



The Macro Utilities Side by Side

KeyQuencer

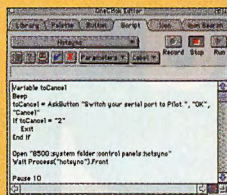
COMPANY: Binary Software

CONTACT: 800-824-6279,

310-449-1481,

<http://www.binarysoft.com/kqmac/kqmac.html>

PRICE: \$40 (street)



THERE'S LITTLE you can't do with OneClick.

integrated and because OneClick's interface is more complicated—you have to switch back and forth among three to five windows to create a macro. If you want a simple key-command trigger, you still have to jump through all the hoops of creating a button on a palette. That said, there's little you can't do with OneClick. It's fast, very powerful, and fairly solid, and the support on the Web is great.

QuickKeys

COMPANY: CE Software

CONTACT: 800-523-7638,

515-221-1801,

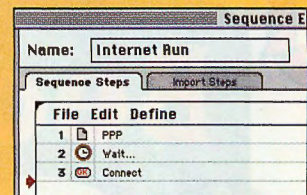
<http://www.cesoft.com/quickkeys/qkhome.html>

PRICE: \$90 (street)



QuickKeys has long been the most popular macro utility and, unless you already know how to write a script, is the easiest to use. It's the only utility of the bunch that operates solely by dialog boxes, without a single line of scripting. That said, QuickKeys also demands that you conform to its quirky ways of creating macros. Each kind of macro—buttons, menus, file launching, mouse actions, and so on—comes with a unique dialog box of settings. Although the program superficially seems easier to learn than scripting, you still have to understand basics, such as conditional branching, to use its most

powerful features. QuickKeys works very well and is powerful, though it's not as fast as OneClick or KeyQuencer.



QUICKKEYS IS THE ONLY macro utility to use just dialog boxes.

Tempo II Plus

COMPANY: Affinity Microsystems

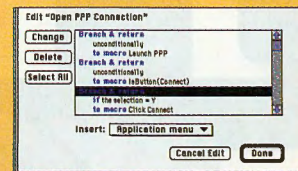
CONTACT: 800-367-6771,

303-442-4840

PRICE: \$180 (SRP)



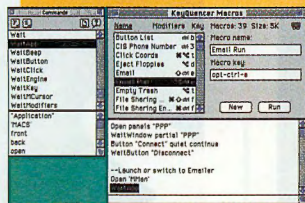
Tempo II Plus, now in version 3.0.9, is the original script-based macro utility, but it's showing its age. Tempo's scripting interface is awkward to use, requiring much more work to create sequences of macros and conditionals than in the other three utilities; and it's the most difficult to learn



AWKWARD AND DIFFICULT—that's Tempo II Plus for you.

and use of the lot. Its scripting language is buried under far too many dialogs and

externals, and creating long macros is tedious. It's also the buggiest of the four utilities. To top it off, Tempo is the slowest performing and most expensive. Although Tempo does a good job of accurately recording macros and comes with a large variety of unique extras, such as a fax controller, we think you'd be better off with any of the other three.



KEYQUENCER'S scripting language is relatively easy to learn.

ing mode, and its script language is less powerful than that in OneClick (no subroutines or conditionals, for example). The shareware KeyQuencer is a terrific way to start out if you're new to macros.

OneClick

COMPANY: WestCode Software

CONTACT: 800-448-4250,

619-487-9200,

<http://www.westcodesoft.com/index.html>

PRICE: \$70 (street)



OneClick's standout features are its button palettes and rich scripting language. Macros are triggered by clicking on palettes of buttons,

Function

"Watch me" mode

Conditionals

Timer

Application-specific macros

Variables

Stand-alone macros

Batches

Subroutines

	QuickKeys	KeyQuencer	OneClick	Tempo II Plus
"Watch me" mode	Yes	No	Yes	Yes
Conditionals	Yes	No	Yes	Yes
Timer	Yes	No	Limited	Yes
Application-specific macros	Yes	Yes	Yes	Yes
Variables	No	Yes	Yes	Yes
Stand-alone macros	Yes	Yes	No	No
Batches	Yes	Yes	No	Yes
Subroutines	Yes	No	No	Yes



automate

Become a Control Freak at Home

By David Reynolds



It's a dream that has been with us since the industrial age started maturing and we started working long hours in factories. Machines would make our lives a breeze, freeing us from toil while taking care of all our needs. In this beautiful future, we'd have to work only three hours a week, and we could spend our copious leisure time lounging about in our houses, which would (having been built with machines in mind) anticipate our needs by turning on lights, heat, and appliances. These houses would even learn by watching, keeping track of our comings and goings, keeping one step ahead of us.

Shed those post-industrial age blues, my friend. With your Macintosh, a few hundred bucks, and a house with electricity, you can enjoy a domicile that caters to you. You won't even have to rewire; current home automation hardware plugs into your existing power sockets. Soon your house will be watching you like an overeager golden retriever waiting for your next command. It will turn lights on and off according to your schedule, make coffee for you in the morning, and pull the drapes and dim the lights when you're ready to watch a romantic movie with your sweetie. It even will make the popcorn. The three-hour work week, however, is something you'll have to take up with your employer.



FIND DEMOS
of the
software
mentioned
on The Disc.



FIND LINKS
to more
information
on our
Web site.

FIVE FUN HOME AUTOMATION TRICKS

1 Give your house that lived-in look. By setting up a schedule of random times for lights and appliances to turn on and off, and by strategic use of a sound sensor or two that will turn on interior lights if a sound is detected, you can make it seem as though someone is living in your house while you're spending two weeks in Sri Lanka.

2 Set up a lovely wake-up call. Have your Mac give you a gentle "good morning" by waking you with fresh coffee, opening the drapes to let in the morning sun, and turning on all the lights between your bedroom and the bathroom.

3 Frighten the neighborhood kids. When Halloween rolls around, equip your house to react to motion and sound with screaming and turning on blood-curdling green and red lights. The best haunted house on the block, guaranteed.

4 Install a window through the Web. With a few motion sensors, a pager, a Connectix QuickCam, some dialing software, and a Mac Web server, your house can beep you if it detects something moving around, then snap a few shots and post them to a Web page. Just type in a URL and look in on what's happening in your house.

5 Create a foul weather friend. Plug in a few temperature sensors, a rain gauge, a barometer, an anemometer, and a weather service radio, and your house can watch the skies, charting local weather. It can even sound an alert if it thinks the temperature or atmospheric pressure is dropping too rapidly (or if it receives a weather alert via the radio).

Lights On, Lights Off

Blame it on the Scots. Back in 1976, a little Scottish chip company—Pico Electronics, for you history buffs—known for developing the first single-chip-calculator integrated circuit had a bright thought: What if people could turn lights and appliances on and off remotely without having to rip out existing wires and install new ones—wouldn't that be really cool? Pico turned the cool idea into a cool project, which became known as X-10. (X-1 through X-9 were previous Pico chip projects.) From the X-10 project came X-10 modules. Based on a method of transmitting simple commands through power lines, these little gadgets plug into an ordinary wall outlet and send and receive information over ordinary electrical house wiring, much like a modem. This information is in the form of commands (such as on, off, and dim) sent to little receivers that spend their time waiting for just such information.

X-10 devices fall into two categories: transmitters and receivers. Transmitters send X-10 commands through house wiring, and receivers—yep, you guessed it—

listen to the wiring for these commands. You need at least one transmitter and one receiver to do anything, and with the help of a CM11A interface, your Mac can act as an X-10 transmitter. You can buy a CM11A from almost any home automation catalog, or you may find it at an electronics store, such as Radio Shack or Fry's Electronics. (See "Home Automation Sources, p51" for contact information on the companies and sources listed in this article.) Be sure you get a cable that connects from the CM11A to your Mac's serial port.

With your Mac in control, you can schedule lights to turn on and off at specified times and drapes to open and close, detect open and closed doors and windows, and control just about any electronic device. Think how nice it would be if your porch light turned itself on 10 minutes before you arrived home, especially in the winter when it gets dark early.

Here's how it works: Your Mac, which you have told to turn on the porch light at 6:20 p.m., sends an "on" command to the porch light's X-10 receiver. Because your porch

light has been listening to the power lines for just such a command, it turns on the porch lamp. And because you are energy conscious, you tell the Mac to turn the porch light off at 7:30 p.m., after you're safely inside. At 7:30 p.m., your Mac sends the "off" command to the porch light, and it goes off.

GEEK NOTE:

According to the Home Team (Home Technology Education and Marketing) Web site, at <www.hometeam.com>, X-10 devices modulate a 120kHz burst as the AC power crosses the zero crossing point. (Don't worry—only electricians really understand this.) The presence of a burst is a one, and the absence of a burst is a zero. A basic X-10 message consists of 13 bits: a four-bit start code, a four-bit house code, a four-bit unit/function code, and a one-bit function bit. Thanks to this marvelous technology, you now can send data at a sluglike 60bps over your home electrical lines. Today's modems work at 33.6Kbps, 500 times faster. Even so, the X-10 transmission rate is fast enough to work just fine for home automation and is capable of sending more than five commands per second.

What? What Did You Say?

Star Trek: The Next Generation is fun to watch. Some might say it's the space battles and the Klingons, but the real reason people like to watch it is because Capt. Jean-Luc Picard can say, "Computer: Dim lights to 30 percent," or "Earl Grey, hot," and it would be so. His living quarters take care of him, exhibiting a semblance of

intelligence and nurturing, listening to and obeying his commands.

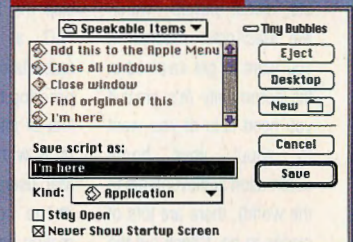
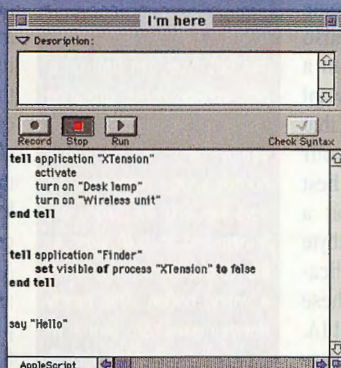
You can have that same I'm-a-good-listener-tell-me-what's-wrong computer in your house, and you don't have to travel in time to get it. With Apple's PlainTalk speech recognition technology, a few quick AppleScripts, and your X-10 setup you, too, can soon say, "Computer: Quiet time in the den," and the lights will dim, soft music will play, and you'll be ready to relax.

To control your home automation system by voice, you need to install both AppleScript and PlainTalk on your Mac. Create the voice command in AppleScript's script editor. Save the file as an application, and make sure that the application doesn't show its dialog box at startup. Name the AppleScript application: as the command you want to speak ("Turn on the desk lamp."). Finally, place it in your Speakable Items folder. Now, when you say your command, your Mac will find it in the Speakable Items folder and carry it out.

THIS APPLESCRIPT activates XTension, tells it to turn on the desk lamp and wireless unit, hides XTension, and tells your Mac to say, "Hello" in response to your "I'm here" voice command.

BACK TALK

By using the AppleScript "say" command, you can have your Mac respond in its own voice to your commands. Want a polite Mac? Create an AppleScript that makes it say, "You're welcome" when it hears you say, "Thank you." Miss Manners would be proud.



BY NAMING THE APPLESCRIPT APPLICATION "I'm here" and setting it to never show its startup screen, you can drop it into the Speakable Items folder and be ready to bark orders to your Mac—and your house.

INTERFACES PAST:

An older computer interface, the CP290, allowed only one-way communication from your Mac to a device. Although it let you control a lot of devices, it didn't let your Mac get information back from X-10 receivers; there was no way for your Mac to know if a device it was controlling was on or off. Although it's not as versatile as a CM11A, you can still use a CP290 to do home automation. Sand Hill Engineering offers a freeware version of XTension that works with the CP290 (but not with the CM11A). MouseHouse by Swing Software runs about \$70 and works with only the CP290 interface.

Robots and Weather

Although X-10 devices provide a lot of flexibility, they don't do everything. For those who are slightly talented in the electronics department, there's a device called the ADB I/O by BeeHive Technologies (818 304-0664, <http://www.bzzzzzz.com>). With this beast, you can do things such as remote temperature sensing, or you can control motorized devices. Because it understands AppleScript, the ADB I/O is the perfect companion to an X-10 network with

Sand Hill Engineering's XTension software.

Although you should know a little something about electronics if you're planning to use an ADB I/O, the possibilities with this device are almost limitless. We have so far been able to hook up internal and external temperature sensors and control motors, all via AppleScript. More industrious folks have used the ADB I/O to do time-lapse Web photography and all kinds of remote sensing.

Join the Community

The folks who do home automation are a passionate, vocal bunch—much like *MacAddict* readers. If you want to get involved in the community (it's great if you need help or you want to shout your home automation achievements to the world), there are lots of places to go. Check out the following starting points.

- There's a mail list that discusses home automation and XTension at <http://www.shed.com/maillist.html>.

- For general home automation information, you can visit the home automation FAQ at <http://web.cs.ualberta.ca/~wade/HyperHome/top.html>. There's lots of info here, but some of it won't be relevant to Mac users.

- The comp.home.automation newsgroup hosts a broad discussion of home automation issues.

- Interested in more home automation links? Try <http://www.asihome.com/links.html>.

What You Need To Do

To set up your Mac as the hub of an X-10 network, you'll need the following items:

- a Mac Plus or later with 4MB of RAM and a few megabytes of hard drive space
- System 7 or later
- a CM11A X-10 interface
- X-10 control software
- X-10 controllers
- AppleScript (this is optional but too useful to leave out).

Step 1:

Get a CM11A interface for your Mac. Your Mac plugs into the X-10 network through an interface. Although there are a couple of X-10 computer interfaces out there, we prefer the CM11A. This interface costs about \$60 and is available through most home automation catalogs and some electronics supply stores. The CM11A is a new interface that lets your Mac act as an X-10 transmitter. It allows two-way communication between your Mac and other X-10 devices, so you can ask a lamp if it's already on before trying to turn it on. The CM11A plugs into a wall outlet (surprise!), and it has a cable that plugs into your Mac's modem or printer port. Be sure to specify that you want a Mac cable.

Step 2:

Pick the software you'll use to control your devices. We like XTension by Sand Hill Engineering for its scriptability and CM11A support. With XTension, you can import a PICT image of your house's floor plan and place icons that represent items controlled by X-10 receivers, such as electric blankets and lamps. Then simply click on an icon to control its corresponding X-10 device. You also can set up schedules to turn items on and off. XTension features extensive AppleScript support, which lets you orchestrate the actions of lots of X-10 devices at once. (For example, you can set up a script to create a dinner party atmosphere by turning on outside lights; dimming the dining room lights by 20 percent; turning the kitchen, bedroom, and living room lights off; and playing a little Joshua Redman through your home stereo.) XTension also records all X-10 activity in a log file (useful if you want to know exactly when that motion detector in your garage was tripped). And best of all, XTension runs on a Mac Plus in a single megabyte of RAM; not many applications can claim that these days. You can get a CM11A, cable, and XTension software

bundle through Advanced Services for only \$139. That's a great starter kit.

Step 3:

Get a catalog of X-10 devices to see what's available—and thus what you can automate. We recommend either Advanced Services or Home Automation Systems. You can find X-10 devices also at electronics supply houses, such as Radio Shack or Fry's Electronics.

Step 4:

Decide what you want to do. Are you interested primarily in controlling lights, or do you want advanced capabilities, such as a driveway sensor that watches for cars and when one pulls into your driveway announces the newcomer and turns on some exterior lights?

Step 5:

Figure out how to organize your home automation system. One useful way to organize your X-10 devices is by *house zone* (which can range from A to P). You can use up to 16 X-10 devices in each zone—a single Mac can control up to 256 X-10 devices. Although you can group by function (lights are zone A, appliances are zone B), you will probably want to group them by room (the living room is zone A, the kitchen is zone B, and so on), which makes it easier when you start creating schedules and scripts. If you're feeling particularly obstinate and adventurous, you can assign random addresses to your devices with no regard for zones. X-10 doesn't care; zones exist to help you keep track.

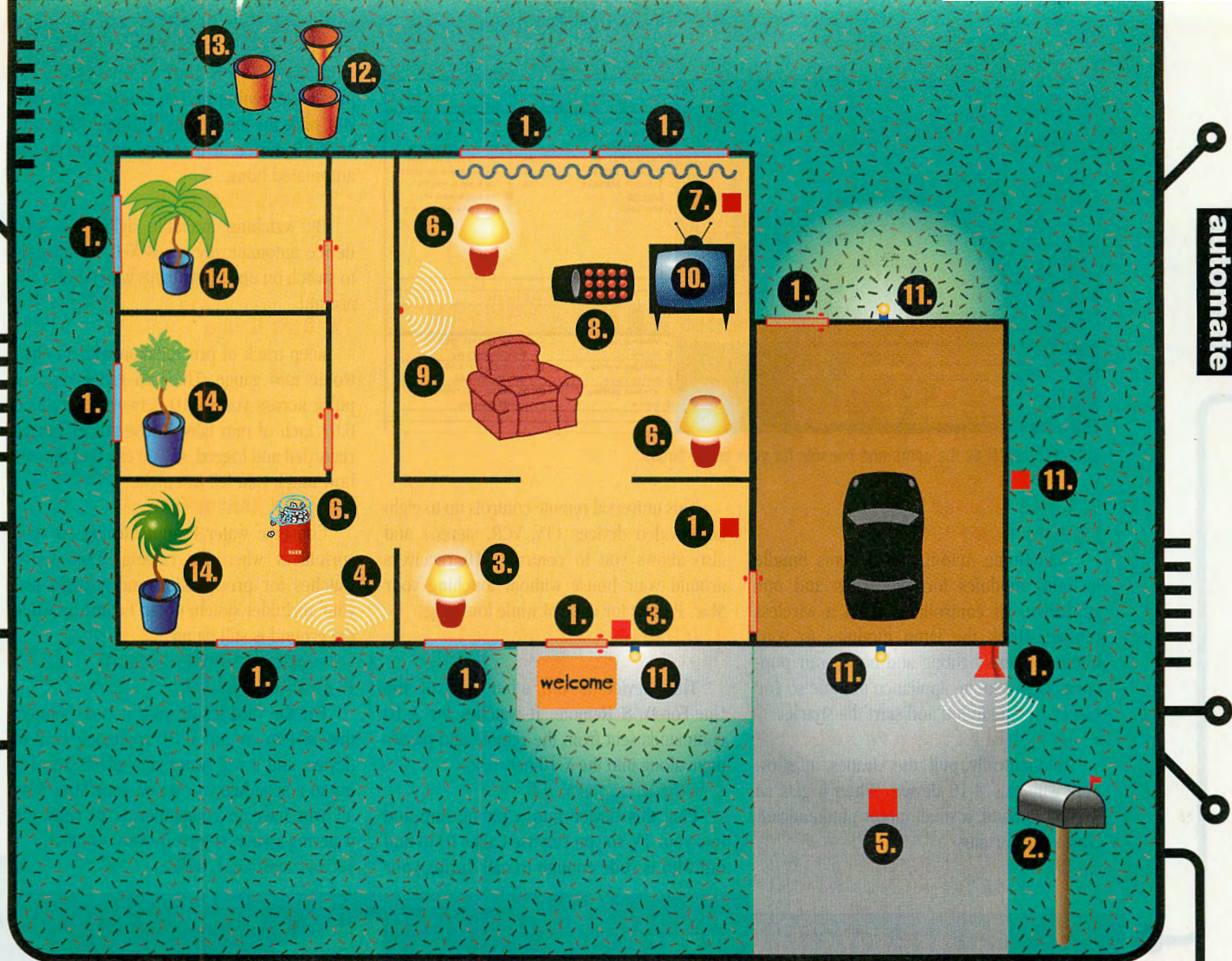
Step 6:

Pick a receiver for each device you want to automate. Basic X-10 receivers come in three varieties: lamp modules (for light-current items, such as lamps), appliance modules (both two- and three-pin varieties for heavier-current items, such as coffee pots), and 220V appliance modules (for items such as air conditioners and electric clothes

dryers). Be sure that each receiver is rated for the appliance with which you want to use it. After all, it wouldn't do to plug a heavy-duty toaster into a light-duty lamp module and risk damage to your module or, worse, a fire. Other than differences in the kind of current they handle, receivers are essentially the same. And they are typically dirt-cheap, at least on the scale used for computer-related peripherals. A basic lamp module starts at around \$10, and more complicated modules run from \$30 to \$350.

HOT TIP:

Because of house wiring quirks, your X-10 devices may not work properly when you plug them into certain outlets. To get around the problem (and we didn't make this up), you can turn on a high-voltage home appliance (such as an electric oven), which will bridge your home's wiring, (which makes sure the X10 messages are transmitted on both sides of the AC cycle), or you can buy a wiring bridge. This handy device makes sure your X-10 signals get to every outlet.



The Deluxe Automated Home

What's the matter? Having your Mac turn your porch light on at a specified time isn't exciting enough for you? Fear not—there are many more interesting and wacky things you can do. Here's a sample home with lots of bells and whistles (and even a barking dog) to get you started.

1. Multiple-Piece Security System with Voice Dialer

This useful bundle from Advanced Services includes a security console/voice dialer, a motion detector, a door/window

sensor that will watch up to 16 doors and windows to see if they are opened, a remote control, a key-chain remote control, and a remote siren. This is the hub of the security system. It will do the watching, screaming, and dialing if something goes wrong.

2. Wireless Door/Window Sensors

One contact goes on the door or window and one on the frame. If they come apart, they send a message to the security console, which then sounds an alarm or sends X-10 commands to other devices. Because it's wireless, it doesn't have to be plugged into the house's electrical system. Put one on your mailbox, and you can have the sensor send a message to your Mac letting you know your mail has arrived.

3. ReX-10 Barking Dog Alarm

If the ReX-10 detects motion, it lets out the sound of a vicious barking dog. The ReX-10 also can send X-10 commands to other X-10

receivers, such as lamp modules, so that it seems that your barking dog has caused you to get up and turn on a light to see what's wrong.

4. Sonic Sensor

This X-10 device listens for loud noises (such as breaking glass) and notifies the proper X-10 devices (such as lights and the siren) when it detects a noise. Your Mac also will be quick to know that something is amiss.

5. Magnetic Vehicle Sensor and Probe

Bury the sensor under your driveway, and the next time someone pulls up to your house, the sensor can send an X-10 command to some lights to turn them on, and it will notify your Mac that someone has approached.

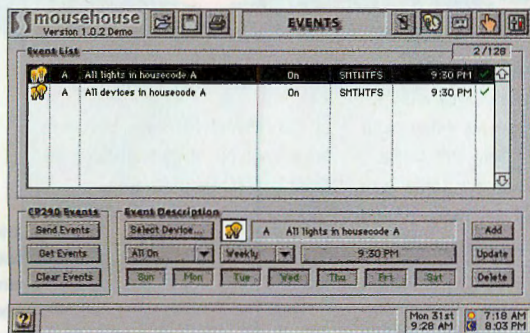
Home Automation Sources

Advanced Services
800-263-8608
<http://www.asihome.com>

Home Automation Systems
800-762-7846
<http://smarthome.com>

Sand Hill Engineering
407-349-5960
<http://www.shed.com>

Swing Software
810-336-9000
<http://www.swingsoftware.com/www/mousehouse>



Mousehouse allows you to set up an appliance schedule.



USE XTENSION as the command console for your entire house.

6. Home Theater Lighting Control Kit

This Home Automation Systems bundle includes modules for two lights and one appliance, all controllable from a wireless remote. Hook the lamp modules to your home theater's lighting and hook your popcorn popper to the appliance module so you can create the mood and start the snacks.

7. Drape Boss Drapery Control

Automatically pull the drapes at show time with this X-10 device. When it gets an X-10 command, a small motor automatically closes the curtains.

8. One-For-AV 8 Remote

This universal remote controls up to eight audio-video devices (TV, VCR, stereo) and also allows you to control X-10 receivers around your house without touching your Mac. Perfect for control while lounging.

9. Infrared X-10 Command Console

This device is the other half of the One-For-AV 8 Remote. It watches for X-10 commands sent from the remote and passes them along into the X-10 network.

10. Caller ID for TV

Plug this device into a phone line and into your TV, so you can use Caller ID to find out who is rude enough to call during your

private screening of *The Godfather* before you pick up the phone. Although this isn't an X-10 device, it is a nifty addition to the automated home.

11. Timed Photocell

By watching available light, this X-10 device automatically sends X-10 commands to switch on up to four lights when dusk rolls around.

12. Rain Gauge

Keep track of precipitation with an electronic rain gauge. The rain gauge sends a pulse across your X-10 network every time 0.01 inch of rain falls. Those pulses can be recorded and logged, so you can find out just how much rain fell last night.

13. Rain Sensor

Conserve water by not turning on your sprinklers when it's raining. This device watches for precipitation and ensures that your sprinkler system doesn't come on while the ground is still damp.

14. Automatic Houseplant Watering System

For the yard inside your house. Connect this system to an X-10 appliance control device, and it will water your plants according to a schedule you set on your Mac. Now all you have to remember is to refill the watering system reservoir every so often.

Total cost: \$1,530

How It All Fits Together

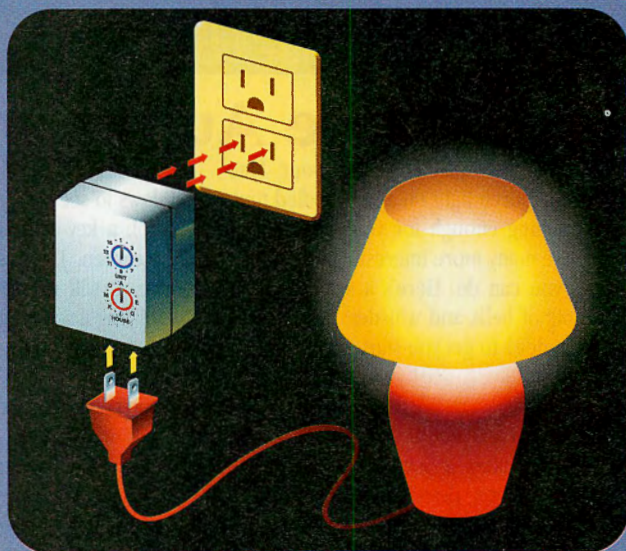
A typical setup consists of one X-10 transmitter (your Mac) and several X-10 receivers. Just plug your X-10 receivers into the wall outlets (or follow any other installation instructions), then plug in the devices you want to control. Plug your CM11A into the wall, and plug your Mac into the CM11A.

You'll also need to assign each receiver its own address so that the Mac knows where to send commands. An address consists of one of 16 house codes (indicated by the letters A to P) and one of 16 unit codes (indicated by the numbers 1 to 16). Thus, you can send messages via X-10 to any of 256 separate addresses by combining a letter and a number (such as B-12). Generally, all you need to do to set a device's address is turn two dials on the front of its X-10 receiver.

Once you've physically given an address to a receiver and its associated device, then you need to open the control software on your Mac and set up an icon for each device. For your Mac to be able to send commands to the devices and have them obey, you

need to assign each icon the same address as the real, physical device. Each command that the Mac sends has an address sent with it. If the sent address matches the X-10 receiver's address, the device follows the command. If the addresses don't match, it ignores the command. If two receivers share the same address, they both respond to signals sent to that address, much the way two radios tuned to the same frequency play the same music.

Once you've set up the software so that the devices can receive commands, you can begin setting up the commands themselves. Start by creating a schedule of on/off events. Decide which devices you want to turn on, when they should come on, and when they should go off. For example, you might set your coffee pot to come on at 5:50 a.m. (along with the kitchen lights) and have your bedside lamp switch on at 5:55 a.m. while a soothing voice says, "Good morning. Your coffee is ready." Then at 6:00 a.m., your stereo would turn on just in time



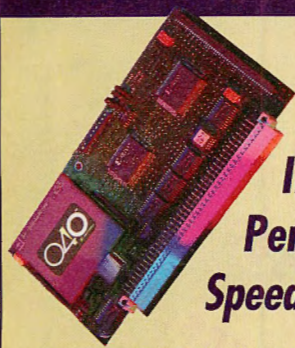
for National Public Radio's *Morning Edition*. Just figure out what your routine is, then set up your software so that your devices follow that routine.

When you become bored with your initial setup and want to add scads more devices, all you need to do is buy more X-10 receivers, plug them into wall outlets, plug the appliances into the X-10 receivers, add the new devices in your Mac's software, and—

blammo!—you're automated. Because your Mac can send commands to up to 256 different X-10 addresses, there are enough possibilities to satisfy the most hard-core control freak.

David Reynolds wants to use a combination of X-10 motion sensors, floorboard stress sensors, and a voice module to yell at his dog if he gets into the garbage.

Run Your Mac Faster and Save!



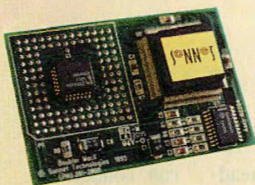
Accelerate Mac LC, LC II, Color Classic, IICI, IISI, IIVx, or Performa 600 to '040 Speed Starting at \$199

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II or Color Classic performance 470% as fast as a stock machine (processor performance, MacBench2). Use RAMDoubler or Virtual Memory to break the 10MB barrier with the Presto LC (except Mac LC, OS 7.1+ req'd). The Presto LC is only \$199, or with hardware Floating Point Unit (FPU) \$249.

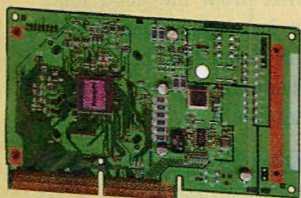
The 80/40MHz version for the Mac IISI*, IICI, IIVx, or Performa 600 increases processor performance by 250-500%. The 80/40 MHz Presto is only \$299, or with FPU and 128K level 2 cache, \$399.

All Prestos are 100% application software compatible and run through System 7.6. The Prestos are easy to install in the Macs' processor direct slot, and come with clear installation instructions. (*Adapter req'd IISI)

Allegro's Fast 68030s Give New Life to Mac SE, II, IIX, LC, LC II, Color Classic from \$99



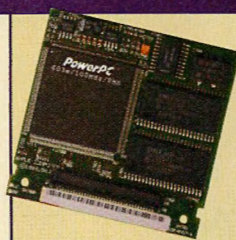
Give your older Mac more muscle. Sonnet Allegros™ are packed with features at bargain prices. The 33MHz Allegro LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU—all for only \$149. The 33MHz Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain \$199. Allegro Mac II, IIX models double '030 speed to 33MHz for a mere \$99.



7300-9600 Upgrade 150MHz 604 \$299* 200MHz 604e \$749* 233MHz 604e \$1099*

Give your Power Mac 7300, 7500, 7600, 8500, 8600, 9500, 9600 a PowerPC 604/604e upgrade. These power-packed upgrades are 100% compatible with your existing software and hardware. Just plug one in and enjoy the productivity you deserve. Add a 1MB cache card and double your performance! *with card trade-in.

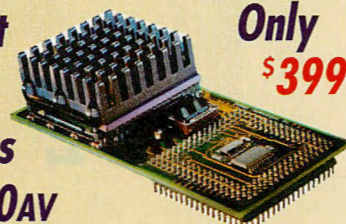
Wow! 100BaseTx PCI Ethernet....Only \$99



Upgrade Your PowerBook 520/540 to 100MHz 603e with 8MB Memory for \$399*

This is the genuine Apple Computer upgrade designed to bring your trusted PowerBook 520/540 into the PowerPC generation with a speedy 100MHz 603e PowerPC processor. With this upgrade you can run all native PowerPC applications. Upgrade your reliable ethernet-equipped PowerBook to PowerPC, and prepare for the MacOS future. The upgrade includes 8MB of memory and is compatible with your existing RAM expansion board. *Price after a \$100 discount for trade-in of existing 68LC040 card.

Run the Fastest Quadra Ever! 100/50 MHz is Faster than 840AV



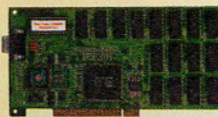
Plug the Sonnet QuadDoubler™ into a Quadra 610, 660AV, 700, 900, or Centris 610*, 660AV, 650 and run virtually twice as fast as before for only \$399. No software upgrades or changes are required. Just plug the QuadDoubler into your CPU socket and power up your Mac. A CPU extraction tool is even included to simplify installation. The QuadDoubler includes a Floating Point Unit for superfast rendering or calculations. A cache card is also available for the Quadra 700/900 for even more performance. *The Centris 610 QuadDoubler runs at 80/40 MHz and is value-priced at \$299 (without FPU \$199).



Add Math Coprocessor to 68040 Macs & PowerBooks

Give your Quadra, Centris, or PowerBook 520/540 a math coprocessor for rendering, Photoshop, CAD, or other Math intensive applications. 25MHz 68040 \$125*, 33MHz 68040 with heat sink \$169*. Add a full 66/33MHz 68040 with FPU to your PowerBook 520 or 540 for \$199*. This upgrade also speeds 520 to 66/33MHz 540 performance. Call for PB190, Duo280 or 68882 FPU. *68LC040 trade-in required.

IMS Twin Turbo



Accelerate graphics 270% in a PCI Power Mac with the fastest video accelerator—the same as Apple bundles with the 9600. Scroll faster. Increase the speed, color depth and resolution on your big monitor. With 4/8MB VRAM.....\$349/\$549

Cache Doubles Speed?

True. An Apple PowerMac with 1MB cache runs 195% as fast as cacheless on 200MHz 604e (MacBench 4). 256/512K cache boosts 138/169% respectively. 256K for 6100/7100/7200/7500\$49 512K for 72/73/75/76/85/8600.....\$99 1M for 72/73/75/7600/85/8600....\$199 256K 5260/6360/54/55/64/6500\$99 512K 5260/6360/54/55/64/6500 . \$149



SONNET TECHNOLOGIES, INC.
18004 Sky Park Circle, Irvine, California 92614
714-261-2800 Fax 261-2461 sales@sonnettech.com

800-786-6260

<http://www.sonnettech.com>



VISA and MasterCard no surcharge. We used to have a surcharge; we don't anymore. Government, corporate and education P.O.s welcome. Tammy works diligently to process every in-stock order within 24 hours. You can wish her the best for her upcoming July wedding if you need to check on order status. One year limited warranty on all products. If you step on it and break it we limit the warranty, otherwise we don't limit it too much. All returns require an authorization and are subject to a restocking fee. ©1997 Sonnet Technologies, Inc. Sonnet, the Sonnet Logo, Allegro, Presto and QuadDoubler are trademarks of Sonnet Technologies.



probe

Introducing the

MAC

ADDICT

REMOTE

SENSOR PROBE

With it you, too, can
probe into our secret life.
And win prizes, too.



BY DAVID REYNOLDS



FIND THE
M.A.R.S.
PROBE
software on
The Disc.



EVEN IF YOU
CAN'T control
the probe,
you can see
what's up on
our Web site.

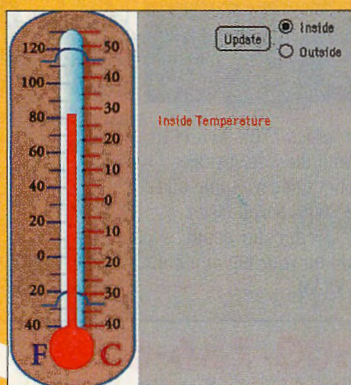
This home automation thing has been so exciting, we decided to do a little experiment that will let you in on the fun. We're often asked, "What's it like to work at MacAddict?" Now you can see for yourself and save us the trouble of explaining, in detail, what's on the walls, what the indoor and outdoor temperatures are, and what the place looks like late at night when everyone has

returned to their cells. You can visit MacAddict headquarters with the MacAddict Remote Sensor Probe (or M.A.R.S. Probe, for short). This high-tech, bleeding-edge...who are we kidding? We slapped together some crap from around the office, put a Connectix QuickCam on it, and went to lunch.

The contraption does work, though. Most of the time. With the M.A.R.S. Probe software (find it on The

Disc), you can connect to the M.A.R.S. Probe (located high atop the Editorial Corral in downtown MacAddict) and pan around our offices, watching the magazine staff hard at work. You also can take a temperature reading both inside and outside the building. When you log onto the video part of the M.A.R.S. Probe, you'll get a screen that looks something like the one below. What's

even cooler is that you can use the M.A.R.S. Probe to win a prize. That's right—by naming the object of the week (which we will place in a conspicuous location, probably marked with a big sign that reads "Object of the Week"), you can win an extra-special prize from the good folks at Kensington ranging from the Orbit Trackball to the SaddleBag. Contest entry deadline is July 15, 1997.



WITH THE M.A.R.S. PROBE software you can spy on us and take our temperature, too.

If you push the Pan Left button, the camera will pan left. If you push the Pan Right button, the camera will pan right. Because several people at a time can control the camera, you may have to wait your turn or you can vie for camera control. (Even though you may not be the only one online, you can watch what's going on by logging onto the Web; see the Read Me file on The Disc.) You won't be able to tell when it's your turn, mainly because we didn't have time to write a server-side application (funny, with our staff of software developers...). Just have to click on one of the controls and see if you're at the helm (and when you are, expect a lag before things start rocking).

With the temperature sensor part of the M.A.R.S. Probe software, you can read the current temperature inside and outside. The temperature reading is somewhat coarse because of the electronics we used, but it should be accurate to within 3 degrees Fahrenheit.

Because we're still putting together the M.A.R.S. Probe as we write this article, *please* read the accompanying Read Me file on The Disc. It will contain the latest info on the M.A.R.S. Probe. Don't just skip over this. Read it. *Please*.

The Hardware

The M.A.R.S. Probe consists of two elements: a pan head that remotely rotates the QuickCam over a 210-degree range, and two temperature sensors that read interior and exterior temperatures. NASA we ain't. The camera unit was the toughest to make. The pan head consists of a piece of mousepad sandwiched between two America Online CDs. This was connected by a rubber band to a gearbox and motor assembly taken from a robot kit. The whole shooting match was then mounted on the right-hand cover of a three-ring binder, which was, in turn, mounted to a cubicle

with a couple of binder clips and shimmed with 10 defective floppy disks. The camera is controlled through an ADB I/O unit (BeeHive Technologies)—possibly the coolest peripheral on the market.

The temperature probes were simpler: They consist of a couple of solid-state temperature sensors wired into the ADB I/O unit. Calibrating the temperature sensors was another matter. We stuck one to a forehead (about 96.6 F) and then put it into a cup of ice water (about 32 F) to see what the numbers we were getting from the ADB I/O really meant. We then wrote a formula to convert the readings to Fahrenheit. Problem was, there's not a mathematician among us, so this took lots of Mountain Dew to calculate.

Because this technology is so very ahead of its time, the M.A.R.S. Probe may not always work the way you expect (the "It's a feature, not a bug" caveat): If the rubber band slips off the pulley, the camera may stick in one place; if the batteries go dead, the camera may pan in one direction but not the other; and if there's a fire inside the *MacAddict* offices, the temperature readings will probably exceed 500 degrees.

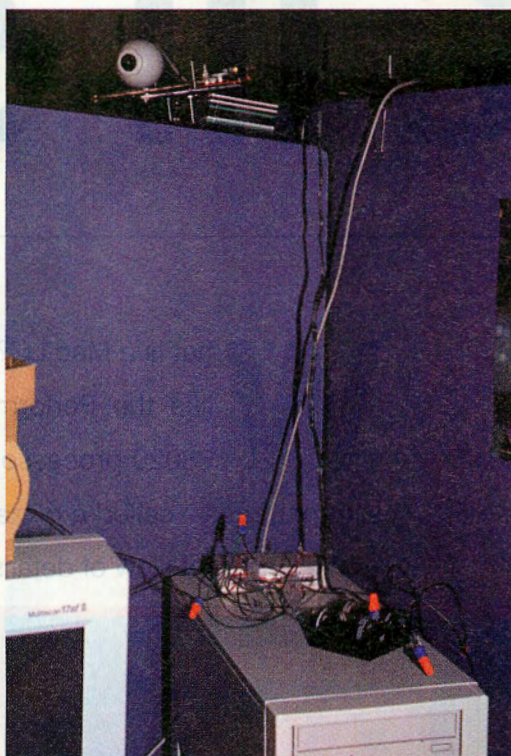
The Software

Former archaeologist and CD-ROM editor par excellence Wade Albright wrote the code for the M.A.R.S. Probe applet. Over the course of 30 hours one week, he learned how to program in Java and then wrote the M.A.R.S. Probe software. "I need more direction," Wade said, when speaking of how easy it was to learn a programming language. Although Java is the hottest buzzword out of Silicon Valley since "pre-emptive multitasking," it's apparently documentation free. Nonetheless, Wade toiled over his code, and thus you have the M.A.R.S. Probe software. You're welcome.

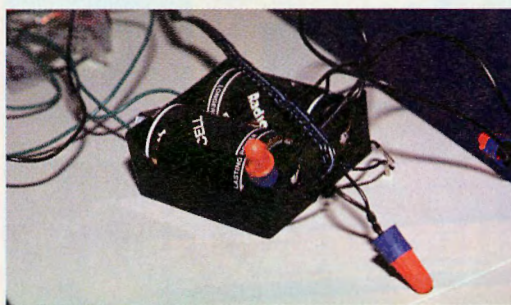
As with the hardware, the M.A.R.S. Probe software is not always reliable. Because it's built in Java, and Java isn't always the most rock-steady technology, you may have some problems, such as buttons not showing up properly or images not loading. If you encounter such a glitch, try restarting the M.A.R.S. Probe

software. If traffic on the Internet is heavy, the camera may not respond. Wait a few minutes and reconnect, or try a different time of day.

David Reynolds continues his mission to find fascinating uses for recycled AOL CD-ROMs.



THE M.A.R.S. PROBE—in all its glory—is driven by (and sits upon) a Power Tower Pro 225.



THIS HIGH-TECH power supply for the camera motor won't go dead anytime soon—those are D batteries.



THE REMOTE-CONTROL pan head of the M.A.R.S. probe makes good use of an AOL CD-ROM.



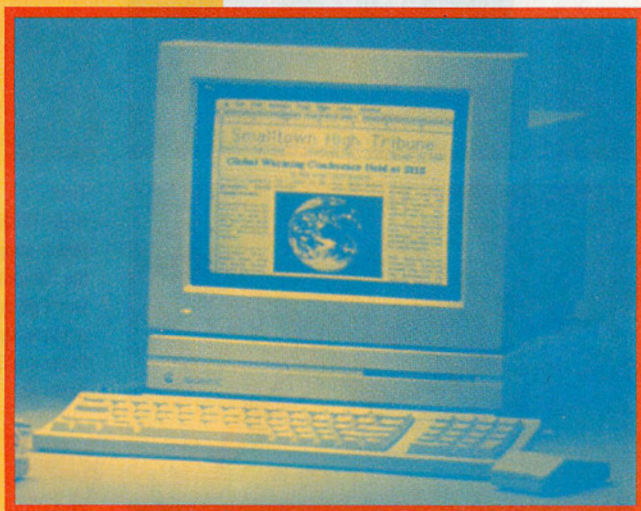
This Old Mac: LC, LC II, and LC III Series

old mac

By T. Kelley Boylan

What is a Mac LC? A little of everything. Designed to be low-cost, like the Performa (a close relation), the original LC used a 68020 processor running at 16MHz. It's basically a Mac II in a slimmer case—called a pizza box.

We'll cover a slew of details on these LCs: the LC, the LC II, and the LC III.



We'll cover the other LCs, such as the LC 475 and the LC 575, in a future installment of This Old Mac. Although there's a lot of life left in the LC line, we recommend that you spend no more than \$200 or \$300 on upgrades. Any more than that and you are better off saving up to buy a whole new Mac—preferably one with a PowerPC chip.

Now, here are the details that stay the same no matter which LC you have....

General Expansion



In some ways all LCs are the same. Every model has a PDS slot so that you can plug in

an accelerator, video card, or net-

work card. But not every model has the same *size* or *type* of PDS, so be sure to tell your vendor which model LC you have. None of the LCs have a NuBus slot, so be sure you ask for a PDS card when you order.

All of the LCs have external SCSI connectors: That means you can easily plug in a CD-ROM drive, an extra hard drive, a scanner, or any other SCSI peripheral. At most you might have to buy driver software—



CHECK OUR
WEB SITE for
helpful links.

CharisMac's CD Anubis driver package or CD-ROM ToolKit by FWB. (CharisMac Engineering, 916-885-4420, www.charismac.com; FWB, 415-463-3500, www.fwb.com).

Networking All of the LCs have AppleTalk built in. None of them, however, have built-in Ethernet or more than one expansion slot. So consider using an external box such as Asanté's Slotless Macintosh Ethernet Controller, which connects to your Mac via the SCSI port.

Utilities Symantec's Norton Utilities 3.2.x runs fine on all the LCs. (Symantec, 800-441-7234; www.symantec.com.) Use Norton Utilities to keep your drive defragmented and error-free. To back up your hard drive, we suggest Retrospect (Dantz Development, (510-253-3000; www.dantz.com)). Some products like Now Software's Now Utilities require a 68030 processor to run, so check the specs on any utilities you buy. If you have a plain jane LC, make sure the software you want will run on a 68020 processor.

The LC can run System 7.5.5; the LC II and LC III can run Mac OS 7.6. (The LC can't since it uses a 68020 processor.) Thus, all of these LCs can connect to the Net with standard connection tools and applications.

Accelerators There's a vast array of accelerators out there, but don't spend more than \$200 to \$300 on

one. If you have that much to spare, save up for a whole new system. If you do upgrade, contact all the accelerator vendors listed, examine their literature, and spend a day or two comparing and contrasting features and pricing. Then check with the used-hardware vendors about which products they have in stock. Note, however, that most of the used-hardware vendors don't have literature on individual products.

What should you look for in an accelerator? First, you'll want a card that includes a PMMU if your LC lacks it (see the details on the individual LCs below to find out if yours has one). With a PMMU, the LC can run Connectix RAM Doubler or virtual memory. Without a PMMU, you're stuck using just the LC's real RAM and that's often limited—unmodified, the LC and LC II support a maximum of 10MB.

Second, seek an accelerator that includes RAM expansion slots. The secret to a happy life in computing is RAM, RAM, and more RAM—at least 16MB. If you plan to use Navigator 3.01 or later, any of the larger image handling and rendering apps, or Microsoft Office, you'll need even more RAM. Most of the accelerators that include RAM expansion slots also include the logic needed for the LC to recognize the extra memory. Check with individual vendors on

memory limitations.

Assault of Batteries The LC series (and most other Macs) have a battery built into the motherboard. It remembers which printer you've selected in the Chooser, color settings, the current time, etc. Everything that's in PRAM stays alive because the battery keeps it alive. If the battery dies, the machine loses its mind. Freaks. Dies. It may not boot properly; it may forget which port to print to; it may not recognize the network; it may start up in black and white. Norton Utilities won't fix it, reformatting won't fix it, and reinstalling System software won't fix it.

What will fix it? A new battery. Radio Shack carries them for less than \$10. Just bring in the old battery to be sure you get the right one. Alternately, call Apple at 800-767-2775 and ask for a battery, part number 742-0011.

If you're comfortable pulling your Mac's cover off, you can swap batteries yourself; it's as easy as changing the batteries in a remote control. Finding the battery slot on the motherboard may take a while, but it can be done. Once you've located it (it looks like a AAA battery but about half the length), pop out the old one, snap in the new one, and reset all your PRAM settings (printer, clock, color depth, etc.).

The Lineup



Original LC

• Includes a 68020 processor that runs at 16MHz

- No FPU or PMMU
- 2MB of DRAM, upgradeable to 10MB via two RAM slots
- One PDS slot

Shipped with 256k of VRAM, giving it 16 colors at a resolution of 640 x 480. It's upgradeable to 512K of VRAM, which provides 256 colors at the same resolution.

This little box is, well, a little slow, but an LC can be had for \$100 to \$200. Add a 14-inch monitor (about \$200) and you have a serviceable email station and word processor. This little sucker shipped in 1990 with an optional 12-inch

display, which was too small back then and is definitely too small today—many games and CD-ROMs require at least a 13-inch monitor. Unless you plan to use your LC just for word processing and email, also spend \$25 to \$50 on VRAM.

Unmodified, the LC can handle a maximum of 10MB of RAM. To get more, buy an accelerator that includes RAM expansion slots and the logic to use them. There are a wide variety of products from which to choose—for example, MicroMac alone makes five different models for the LC, many of which include additional RAM slots. Daystar's 68030, 50MHz PowerCache gives you power to run much of the major software on the market and use of RAM Doubler and virtual memory.

The LC does not have an FPU (floating point unit). Thus, you can't use virtual memory or RAM Doubler. One solution is to install an accelerator card like those above with additional RAM slots—most of these also include an FPU. If you don't want to sink any more money into it, try the shareware program SoftFPU from John Neil & Associates (www.jna.inter.net/jna/sfpu.html). It emulates an FPU, albeit more slowly than the hardware version. A tiny \$10 shareware fee and you're off.

Software: Use smaller packages like ClarisWorks, MacDraw, and MacWeb. Don't bother with Adobe Photoshop, Microsoft Office, or rendering tools unless you've upgraded your machine significantly—we don't recommend using Photoshop

Hardware Sources

Accelerators

Brainstorm Networks

415-988-2900

<http://www.brainstorm.net>

DayStar Digital

770-967-2077

<http://www.daystar.com>

Extreme Systems

Available through Pacific Mac

302-655-2188

<http://www.pacificmac.com/Extreme.html>

MicroMac Technology

800-600-6227

<http://www.micromac.com>

MacGalaxy

608-238-0606

<http://www.macgalaxy.com>

Sonnet Technologies

800-786-6260

<http://www.sonnettech.com>

Ask about Dove, NewLife, and Novy Systems when you call used-hardware vendors (see page 58 for contact information). They've either stopped making accelerators or are out of business, but their products are still around.

Video

Griffin Technologies

800-986-6578

<http://www.griftech.com>

RasterOps

800-729-2656

<http://www.rasterops.com>

Sony

800-352-7669

<http://www.sony.com>

Networking

Asante

800-662-9686

<http://www.asante.com>

Farallon

800-759-7761

<http://www.farallon.com>

More Sources for Old Macs

- Use your favorite search engine to search for "used mac."
- Subscribe to the newsgroup comp.sys.mac.forsale.
- Look in local newsgroups—yourcity.forsale
- Peruse the phone book under "Computers, Used."
- Watch the newspaper's for-sale section.
- Ask around. You'll be surprised how many people have old computers they'll just give away.

Used-hardware Sources

Contact several vendors when you shop and ask about warranties and returns, just in case. This list isn't comprehensive, but it's a good place to start.

The Computer Exchange
800-304-4639
<http://www.compexch.com>

DataTech Remarketing
800-281-3661
datatecrem@aol.com

GE Capital
<http://www.ge.com/capital/commequip/es>
800-722-7719

Hawke Business Systems
800-875-2610

Mac • Res • Q
510-689-9488
<http://www.macresq.com>

Mac Sale International
800-729-7031
<http://gn2.getnet.com/macsale/index.html>

Pre-Owned Electronics
800-274-5343

Shreve Systems
800-227-3971
<http://www.shrevesystems.com>

Sun Remarketing
800-821-3221
<http://www.sunrem.com/sunrem>

with less than a 68040 processor and 24MB of memory. For system software, use anything up to 7.5.5. Mac OS 7.6 won't run on this Mac.

Most of today's hottest games require a 68040 processor. Less demanding games like Solitaire or Lode Runner work fine, so look to old-game archives like <<ftp://ftp.funet.fi/pub/mac/games>> to find ones that will run well on an LC. Also, check <www.astro.nwu.edu/lentz/mac/recreation/classic-mac-games.html>. These sites specialize in games for slower, older machines.

LC II

(equivalent Macs include the Performa 400 through 430 and the Color Classic)

- Includes a 68030 processor that runs at 16MHz
- No FPU, but it does have a PMMU
- 4MB of DRAM, upgradeable to 10MB via two RAM slots
- One PDS slot
- Shipped with 256K of VRAM, giving it 16 colors at a resolution of 640 x 480. It's upgradeable to 512K of VRAM, which provides 256 colors at the same resolution.

The LC II can use a 12-inch monitor, but if you have one, sell it. Most games and many applications require a 13-inch or larger display. Think about buying a 13-inch display as an investment—you can always plug it into another Mac later.

Unmodified, the LC II can use a maximum of 10MB of RAM. To get more, buy an accelerator that has RAM expansion slots and the logic to use them. The LC II also lacks an FPU, so you can't run RAM Doubler or virtual memory on it, or many scientific, mathematical, or 3D apps. Again, one solution is to install an accelerator card—most include an FPU. If you don't want to spend much money, try SoftFPU, shareware from John Neil & Associates (www.jna.inter.net/jna/sfpu.html). It emulates an FPU, slowly.

Software: Again, stick with small packages like ClarisWorks and MacDraw. Don't bother with Photoshop, Microsoft Office, or rendering tools unless you've upgraded to a more powerful processor and more RAM. For system software, use Mac OS 7.6.

Most games that require a 68030 processor and 256 colors will run, if

slowly. Look to old-game archives like <<ftp://ftp.funet.fi/pub/mac/games>> to find appropriate games. Also, check <www.astro.nwu.edu/lentz/mac/recreation/classic-mac-games.html>. These sites specialize in toys for slower Macs.

LC III, III+ and 520

(equivalent Macs include the Performa 450 and LC 520; the Performa 460 series and the LC/Performa 550, Performa 560, and Color Classic II are also the same, except they run at 33MHz)

- Includes a 68030 processor that runs at 25MHz
- Optional FPU, built-in PMMU
- 4MB of DRAM soldered on, upgradeable to 36MB
- One PDS slot
- Shipped with 512K of VRAM, giving it 256 colors on a 14-inch monitor. It's upgradeable to 768K, which provides thousands of colors on a 14-inch monitor or 256 colors on a 16-inch monitor.

These Macs are fast enough to do work without an accelerator if you're very, very patient. Fortunately, there's yet again no shortage of upgrades. MicroMac's DiIMO 030 will take an LC III up to the fast 68030/slow 68040 range. It's more than \$200 new, so peruse the used-hardware market. You also can swap the LC III's logic board for a Quadra 605's logic board if you can find one from used-hardware vendors (note: this is the same thing as the LC 475 upgrade). In one jump you're up to a slow '040.

Alternatively, you can boost the clock-chip speed on an LC III. For details, point your Web browser to <www.io.com/~oe/Products.html>. Output Enablers offer an excellent, inexpensive way to bump up performance. The clock chip sets the speed for the whole Mac, so if you crank up the chip, you crank up the Mac. To add a clock-chip accelerator, you must open the LC's case and do a little work inside, but if you're handy with a screwdriver, it's pretty simple.

Display options open up with the LC III and its sisters. An 8-bit, 14-inch monitor is sufficient for most needs and most games, but if you want nice smooth gradations and realistic QuickTime movies, go for the extra VRAM. It's less than \$25

and improves your screen images dramatically. Also, with extra VRAM, you can get 8-bit color on a 16-inch monitor, which is fast becoming a standard size in modern Macs.

Lack of memory can make even a quick machine feel slow, and if you plan to use your LC for a few months or years, make sure it has at least 16MB of RAM—more if you can afford it. There's only one slot to fill, and you can put up to 32MB in it, creating a total of 36MB of RAM.

Even with the RAM, the LC III may feel slow when rendering images or calculating spreadsheets. On the LCs, the FPU was optional. If your Mac lacks one, you can buy an upgrade from MicroMac, DayStar, Sonnet, or any other upgrade company. Or you can use the aforementioned \$10 shareware program, SoftFPU, by John Neil & Associates (www.jna.inter.net/jna/sfpu.html) which emulates an FPU.

System software: Use anything but version 7.5.2. As usual, go with the latest, greatest version for simplicity's sake—Mac OS 7.6.1 is available and very stable.

Application software: This is an open book. Almost anything that isn't PowerPC-only will run. Even Adobe Photoshop is functional, if very slow. Have as much RAM as you can get your hands on if you plan to use Photoshop.

Microsoft Word and Excel work fine, but definitely are not fast, so smaller packages are a good idea. For word processing, we try Nisus Writer (Nisus, 800-281-0101; www.nisus-soft.com) or ClarisWorks and, for art, MacDraw (Claris, 800-325-2747; www.claris.com). Don't, however, try to turn an LC III into a rendering tool. You'd be dead before Bryce finished rendering that beautiful landscape.

Games: Fortunately, the list of games goes on and on. Just to start, there's Brøderbund's Myst and Prince of Persia; Psygnosis' Lemmings; Blizzard's Warcraft; Ambrosia's Maelstrom and Apeiron; Casady & Greene's Crystal Quest; Graphic Simulations' Hellcats; Semicolon Software's Solitaire 'til Dawn; plus early versions of Delta Tao's Dark Castle and Maxis' SimCity.

T. Kelley Boylan is a Mac administrator who owns and uses Macs exclusively.

Supplies Won't Last... **SUPERMAC**

RASTEROPS

STOP!!
LOOK!!
REBATES
ON CPUs

AT OR BELOW DEALER COST!

AWESOME DISCOUNTS

ON-SITE WARRANTY!!

UMAX SUPERMAC SERIES

	CPU ONLY	BUNDLE DISCOUNT*
C500/180 603e/180	\$1349	from \$1080
C600/180 603e/180	\$1499	from \$1332
C600/200 603e/200	\$1799	from \$1580
C600/240 603e/240	\$2099	from \$1753
J700/180 604e/180	\$2499	from \$2195
S900/180 604e/180	\$3199	from \$2810
S900/200 604e/200	\$3399	from \$2985
S900/233 604e/233	\$4199	from \$3890
S900/180DP 604e/180	\$3899	from \$3424
S900/200DP 604e/200	\$4499	from \$4021

*FREE ClarisWorks, Netscape Navigator & Internet Access with every CPU purchase !! *

APPLE SYSTEMS

PCI MAC

	CPU ONLY	BUNDLE DISCOUNT*
4400/200MHz	\$1699	from \$1445
7200/120	\$1349	from \$1175
7300/180	\$2299	from \$1980
8600/200	\$3199	from \$2999
9600/200	\$3699	from \$3280
9600/200MP	\$4699	from \$4088
7600/132	\$1999	from \$1799

* Bundle Discount Prices available with qualifying monitor purchase !! *

MOTOROLA SERIES

StarMax™

5 YEAR WARRANTY!!

	CPU ONLY	BUNDLE DISCOUNT*
3000/180DT 603e/16/1.2GB/Modem	\$1249	from \$1216
3000/180MT 603e/32/2.5GB/Modem	\$1395	from \$1355
3000/200DT 603e/16/1.2GB	\$1299	from \$1268
3000/200MT 603e/32/2.5GB/Modem/8xcd	\$1799	from \$1629
3000/200MT 603e/32/2.5GB/Zip/10BaseT	\$1999	from \$1851
3000/240MT 603e/32/2.5GB/Modem/8xcd	\$2299	from \$2062
3000/240MT 603e/32/2.5GB/Zip/10BaseT/16xcd	\$2499	from \$2222
4000/160MT 604e/32/2.5GB/Modem/8xcd	\$1899	from \$1764
4000/200MT 604e/32/2.5GB/10BaseT/8xcd	\$2699	from \$2365
4000/200MT 604e/32/4.3GB/Zip/10BaseT/16xcd	\$3099	from \$2714

PRICES CHANGE FREQUENTLY - CALL FOR TODAY'S BEST DEAL!!

APPLE SYSTEMS

NUBUS MAC

	CPU ONLY	BUNDLE DISCOUNT*
6100/60	\$979	from \$795
6100/66	\$999	from \$799
7100/66	\$1299	from \$949
WG6150	\$1445	from \$1249
7100/80	\$1399	from \$1049
8100/80	\$1699	from \$1325

* Bundle Discount Prices available with qualifying monitor purchase !! *

GUARANTEED LOWEST PRICE ON ALL DIGITAL VIDEO!

TRUEVISION Targa 2000

- 16-bit audio up to 48KHz
- NTSC: 30 frames/60 fields per second,
- Supports PAL broadcast standards

NEVER UNDER SOLD!!



**Targa 2000 Pro
Media 100 Products**

**\$CALL
\$CALL**

Video Vision Studio, PCI and Nubus

- 24bit Full-Screen, Full-Motion Video
- Includes Adobe Premiere and VideoFusion
- Breakout bar supports dual input

**CALL FOR
BEST PRICE!!
\$INSTOCK!**

Video Vision Studio Array 4-12GB

Radius Spigot Pro AV \$699

- 24bit Full-Screen, Full-Motion Video



Radius Spigot Power AV \$499

Video Vision Telecast PCI/Nubus

- Full-motion, broadcast-quality video
- Available as upgrade for Video Vision Users

Compare at \$4999 **from \$2999**

Spigot II Tape Now Bundled with Adobe Premiere \$399

VideoSpigot Cards Nubus/LC/IIsi from \$99

BEST DIGITAL VALUE ANYWHERE!

**Full Digital Video Workstation
for less than a
PCI Digital Video card alone!!**

SAME TECHNOLOGY FOR HALF THE PRICE!!

**RADIUS 81/110
32/2GB AV Drive/CD with Video Vision**



**PowerMacs
from \$799**



EarthLink Network

**SET-UP WAIVED!
10 FREE DAYS
With every purchase!**

CRA SYSTEMS

**New and Factory
Recertified Models
of Most Items
Available**

CRA Systems, Inc.

300 South 13th St., Waco, TX 76701

Monday thru Friday 9AM to 7PM CST Saturday 10AM-4PM Sales Dept. Only
Domestic Sales sales@cra-sys.com Fax 817.750.9050

Consultants/Dealers 817.754.2120 International Sales 817.754.2120

Prices reflect 2% cash discount. Prices subject to change. Not liable for typographical errors. All shipping charges for COD orders to be secured by credit card.

Dealers and consultants call for quantity pricing. We ship anywhere.

FedEx

DEALER AND EDUCATIONAL DISCOUNTS AVAILABLE ON MOST ITEMS!

800/375-9000



reviews

A veritable potpourri of the great and not-so-great to entice your senses.

Infini-D 4.0

COMPANY: MetaTools

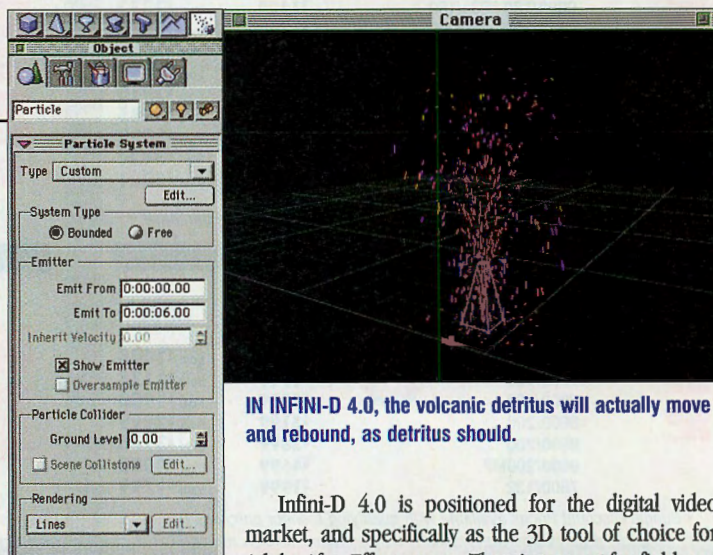
CONTACT: 800-433-SPEC, <http://www.specular.com>

PRICE: \$600 (street)

REQUIREMENTS: Power Mac, 32MB of RAM, System 7.5 or later, QuickTime 2.5 or later, QuickDraw 3D 1.5 or later (recommended: 604e-based Power Mac, 64MB of RAM, Adobe After Effects-compatible filters)

Specular Infini-D users, a fanatical band of loyalists, have been waiting with bated breath for version 4.0 of this popular 3D animation program. Well, it's here, and although version 4.0 still doesn't have some of the features that fans have long been asking for—notably, inverse kinematics and motion blur—it's still a very solid release, with several pleasant surprises.

Infini-D's interface has been significantly revamped. Most tools are now on a toolbar above the work area. Object settings, such as textures, deformations, and constraints, are controlled by a series of command tabs on a large floater that parks to the left of the work area. New users will find it easier to get started, and Infini-D veterans won't have any trouble once they get used to finding the Get Image function on the Surface floater instead of in a dialog box.

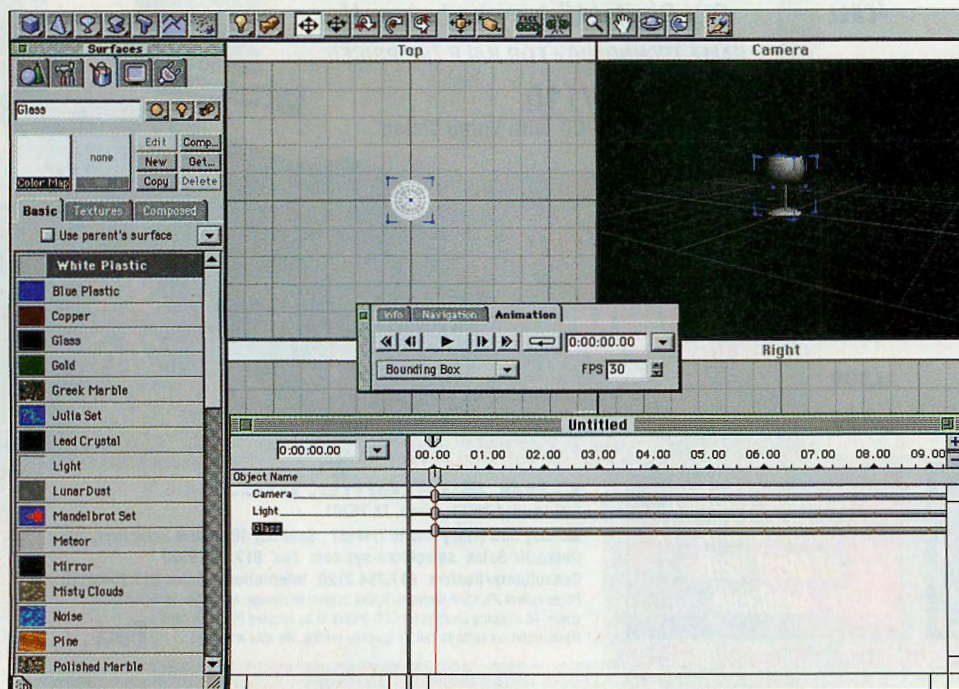


IN INFINI-D 4.0, the volcanic detritus will actually move and rebound, as detritus should.

Infini-D 4.0 is positioned for the digital video market, and specifically as the 3D tool of choice for Adobe After Effects users. There's support for field rendering and the nonsquare pixels used in the pro-level D1 video format. Sound support is another new feature geared specifically to video production. You now can import a soundtrack right into the sequencer and see its waveform while you animate, making it possible to precisely synchronize movement and sound directly within the program. Previously, you had to time the sound with a waveform editor such as SoundEdit and write down the notations before you began.

Infini-D 4.0's new particle animation tools, the easiest to use of any particle animation system on the Mac, allows full collision-detection with any object in the scene—an important feature for realistic particle movement. Glowing sparks from a firecracker bounce off nearby surfaces, just as they would in real life. Unfortunately, Infini-D's particles can be only points, lines, and single polygons. The ability to have any object be a particle would greatly increase the range of possible effects.

The coolest new feature is Reflex, which lets you apply After Effects filters, including third-party plug-ins, to any object in a scene. You can, for example, apply Reflex filters to give individual objects a fuzzy edge. Filters also can be animated, with nearly as much control as After Effects allows. Effects that once required alpha channel compositing in



THE NEW INTERFACE is more than welcome and more than useful. Other software companies should take note.

After Effects can now be performed right in Infini-D 4.0.

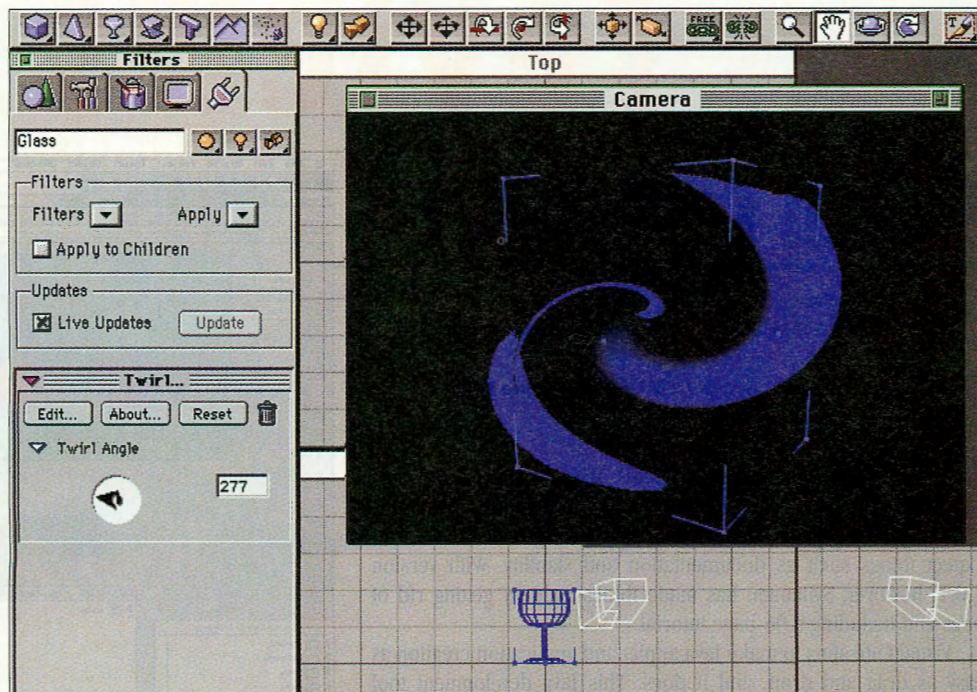
Camera and light animation has also been greatly improved. To animate a complex camera move in Infini-D 3.5, you had to deal with a hard-to-control mess of eventmarks and velocity graphs to keep the camera pointing in the right direction. Now, any camera or spot light can point continuously at a "target" object no matter how the camera or object moves. The result? Smooth moves in far less time.

New visible lighting capabilities, including glowing light cones and points, have been added to Infini-D's already outstanding lens flares. A new light type, tube lights, is great for fluorescent fixtures, laser beams, and light sabers.

Infini-D's renderer also has been updated. The phong renderer now includes soft shadows and reflectivity. You'll probably never need to go to the raytracer except when rendering objects with Booleans, which render correctly only in raytraced views.

Final renders are now done in a separate window instead of in the scene views, as in earlier versions. The new renderer looks much like the Backburner network rendering add-on. Although the new rendering module does not yet support network rendering (no doubt there will be a fix in the future), the new render window also gives more useful statistics about the render, including an estimate of the full render time.

As for performance, Specular boasts that the new renderer is up to



FILTER-TIP: Adobe After Effects filters and plug-ins in Infini-D? Take it for a twirl.

three times faster than the old one. But our tests showed that in some situations, Infini-D 3.5's renderer is actually faster. Render speed is the one area in which Infini-D appears to be falling behind the competition; the company urgently needs to address this problem.

Infini-D animators have been waiting for an easier way to deform objects within a scene without having to create morphing eventmarks in the modeling workshop. In Infini-D 4.0, any object in a scene can be deformed with a variety of deformer tools, ranging from twist and bend to sine waves. Deformations have their own track in the sequencer and can affect all or part of an object. In the workshop, Infini-D now can triangulate an object (turn it in to polygons). You then can take the object into the new Vertex Editor, where you can manipulate it point by point. This gives much greater control over the surface of an object.

As welcome as they are, these tools are not as well integrated as they should be. Child objects do not deform with parents, so if you bend the wrist of a character, the fingers don't follow. Splineform objects can still be morphed normally, but Vertex-edited objects cannot. Also, deformations and morphing are not controlled by velocity graphs, making it hard to achieve proper timing for movements. By the way, one of my pet peeves about the program has not yet been addressed—velocity graphs are still in modal dialogs instead of nonmodal floaters. They should be part of the sequencer.

Without a doubt, though, this Infini-D is the most capable and useful yet. And with competitors sometimes diverging radically, and wrong-headedly, from Apple interface standards (listening, Newtek?), Infini-D still looks and works like a real Macintosh program. That's refreshing all by itself. —*Raf Anzovin*

Infini-D 4.0 Effects

tips

—Trying to make fog effects? They're not in the Environment dialog box anymore; you'll find them in the camera settings box. That means you can have different fog settings for each camera.

—Do your particle streams look too hard-edged? Do you want your particles to glow? Apply the After Effects Fast Blur filter to them as a Reflex filter. The right amount of blur will make the particles look more believable. For an intensified effect, add a second, identical stream of hard-edged particles in the same place. Copy the emitter, but this time, don't apply the Fast Blur filter.

—A vivid laser/raygun effect can be created with tube lights, SuperFlares, and particles. Animate the light along a straight path from gun muzzle to target. Add a small, quick lens flare at the point of impact. Use that same point as the emitter for a spray of glowing particles.

GOOD NEWS: Target cameras, sound integration, animatable object deformations, and particle system with collision detection. Very intuitive interface, the best currently on the Mac.

BAD NEWS: Not a good choice for character animation. Velocity graphs still modal. Rendering speed not up to competition.





reviews

Visual Café 1.0.1

COMPANY: Symantec

CONTACT: 800-441-7234, 541-334-6054, <http://www.symantec.com>

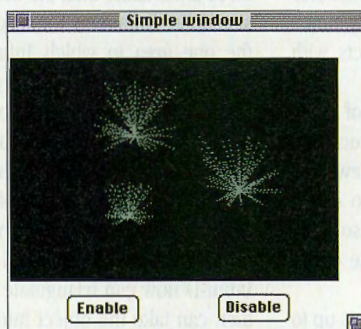
PRICE: \$199.95 (street)

REQUIREMENTS: PowerPC, System 7.5 or later, 10MB of free RAM, 30MB of free hard disk space

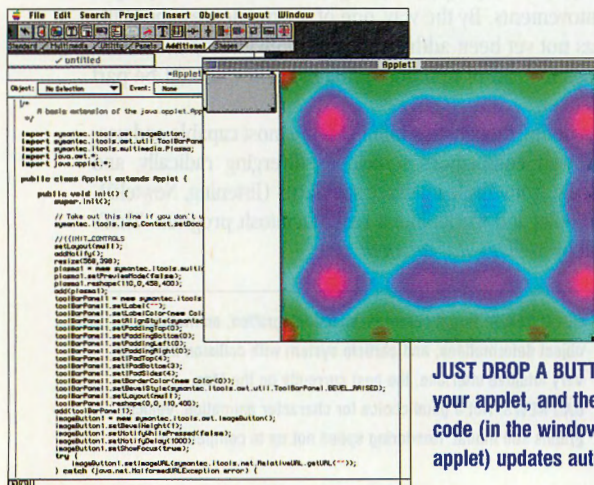
What a difference a bug fix makes. With version 1.0 of Visual Café for Macintosh, Symantec had a problem on its hands: Specifically, the wrath of hundreds of disgruntled users who expect things such as documentation and stability. With version 1.0.1, however, Symantec has made things right by getting rid of bugs and including a 96-page tutorial.

Visual Café aims to make Java applet and application creation as easy as drag and drop, and it does. This Java development tool offers an easy-to-use programming environment in which you drag and drop various objects from a tabbed toolbar in order to create your Java applet. Want a button? Drag it on. Want a list box? Drag it on. Want your button and list box to interact with each other? Just connect them, select the action that will take place when the button is pushed (or when any number of other events happens), and there you go. Simply compile, and you have computer-ready Java.

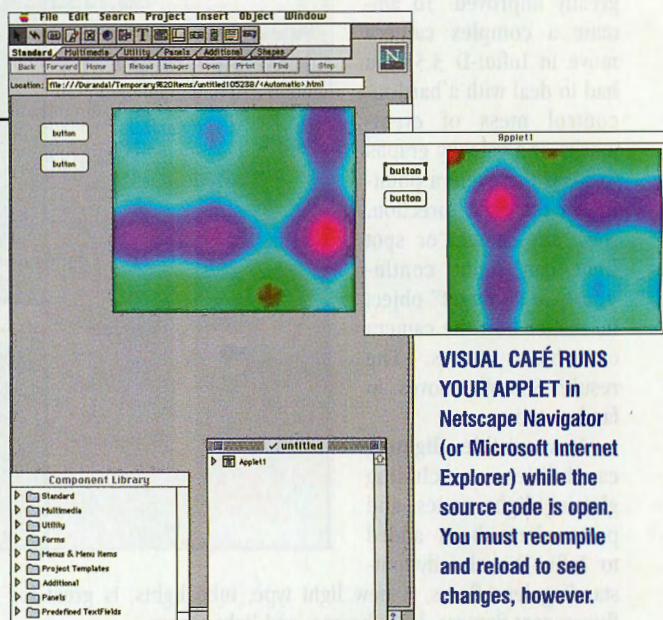
Although this simplicity by itself is pretty cool, Visual Café updates your source code on the fly as you drag, drop, and resize things. This little feature also makes Visual Café a great place to get a tutorial on how Java works, and it makes the environment undeniably powerful. You can create a basic applet without typing a single line of Java code. You also can create a full-blown application with slim knowledge of Java. By choosing the appropriate type of project, sticking to Visual



THIS LITTLE FIREWORKS application took less than a minute to build, and it produced a double-clickable Java application.



JUST DROP A BUTTON onto your applet, and the source code (in the window behind the applet) updates automatically.



VISUAL CAFÉ RUNS YOUR APPLLET in Netscape Navigator (or Microsoft Internet Explorer) while the source code is open. You must recompile and reload to see changes, however.

Café objects, and compiling, the result is a stand-alone Java application. (It still needs Symantec's AppletViewer to run, however.)

Visual Café's tutorial—an Adobe Acrobat file—walks you through the program's basic features and teaches you how to create a basic Web-ready applet and a stand-alone application. The tutorial is good, but it could use some depth in the form of more information about Visual Café's objects. The development utility also includes the Java API in AppleGuide form, which is highly useful when working in Visual Café—you don't have to launch another application to get at those documents. The Java API and language specification are also included on the CD-ROM in HTML format. All this documentation is wonderful for the experienced programmer, but for the programming novice (or someone who wants to create applets for a Web page and not much else), only the tutorial will be of much help. Those people will have to buy a book on Java to really get the most out of this package.

Visual Café has some other spiffy features, including AppleScript support, AppletViewer, Symantec's Just-In-Time compiler (to speed things up at the cost of a little RAM), colored syntax (a great help if you're going to delve into your own code), and a built-in debugger. All of these things should keep experienced programmers busy.

Symantec brought out a great product in the new Visual Café. It features enough power not only for a programmer wannabe like me to produce genuinely useful applets but also for the serious code Jedi. Mix in better documentation, and Symantec would have a hands-down winner. —David Reynolds



GOOD NEWS: Easy user interface construction. Outstanding dynamic source code updating. Lots of compiling and viewing options.

BAD NEWS: Large resource requirements. Sparse documentation.



QuickTake 200

COMPANY: Apple

CONTACT: 408-996-1010, <http://www.imaging.apple.com>

PRICE: \$599 (street)

Low-cost digital cameras are popping up everywhere as Web developers and everyday consumers search for a cheap way to get photos into their Macs. The latest contender, the Apple QuickTake 200, offers some tantalizing new features but fails to deliver a death blow to film.

This member of the QuickTake family sports a new look and a host of new features. Instead of the long, flat shape of previous QuickTake cameras, the 200 could pass for any 35mm point-and-shoot compact. The contours and size of the camera make it very easy to hold and small enough to slip into your pocket. One dial and three input buttons on the top of the camera give you access to all the features—it is possible to figure out all the functions (including how to delete, view, and protect photos) without cracking open the instruction manual. Missing from the QuickTake 200, however, is the built-in fill flash on previous models, a nonessential but very useful feature.

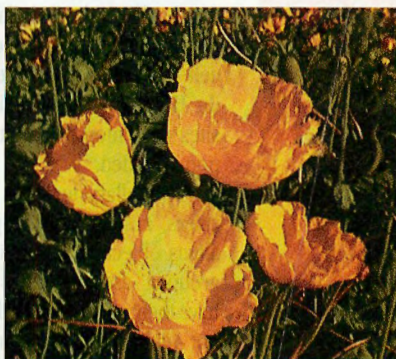
A door on the side of the camera provides access to the Solid State Floppy Disc Card (SSFDC) 2MB storage card, so instead of having to find a Mac for downloading pictures each time the camera fills up, you can “change film” simply by swapping cards. Cool. The camera comes with one 2MB card that holds 20 high-resolution and 30 standard-resolution shots. Four-megabyte cards are also available, for about \$130.



THE NEW FORM FACTOR of the QuickTake 200 is more friendly to the hand, but it's what's inside that counts.



THE SHUTTER'S FAST ENOUGH to catch the seagull's launch, but in low-light situations, the QuickTake 200 can't pick up a full range of color, and the wide-angle image is blurred.



COLORS HAVE DECENT SATURATION, but the image suffers a posterized effect.

A small LCD screen on the back of the 200 is new. It feeds a live image of what the camera is seeing, providing 10 minutes of pure joy as you swing the camera around and marvel at the little glowing screen in front of you. Although the screen is good for seeing what shots you have without hooking up to a computer, it is not so useful as a practical view finder—and it is rendered totally useless by sunlight. Apple supplies a small, plastic viewfinder window that clips to the top of the camera, allowing you to frame your shot—except at close range, when the clip-on view finder is no longer accurate and you are forced to use the LCD.

Thanks to a QuickTake-to-Mac serial port cord, hooking the camera to your Mac to download pictures is painless. Using included software, you view all the photos, download selected photos, sharpen images, and adjust brightness and contrast. The image editing tools are very easy to use, but Adobe Photoshop gives better results.

Finally, though, the measure of a camera is the quality of the photos it produces, and the overall image quality of the QuickTake 200 is disappointing. The camera fails to capture crisp lines even in the high-quality mode. Although the color is accurate, wide-angle shots are a little blurry and, in some cases, suffer from the JPEG compression that most digital cameras use to store images.

In general, you achieve the best results by photographing simple objects or facial close-ups. In the high-quality mode, these photos are good with decent color accuracy and sharpness. On the whole, however, the QuickTake 200's results fall short of other similarly priced digital cameras. —*Phillip Pridmore-Brown*



GOOD NEWS: Removable storage cards. Choosing “keepers” without hooking up to your Mac. Easy-to-use interface. Smaller size.

BAD NEWS: No flash. LCD stinks in the sun. Photo quality isn't great.



reviews

WebCollage 1.0

COMPANY: StarNine Technologies

CONTACT: 800-525-2580, <http://www.starnine.com>

PRICE: \$249 (street)

REQUIREMENTS: 68030, 68040, or PowerPC; System 7.1 or later; 2.5MB of free RAM; 1MB of hard disk space; QuickTime

If you think you've seen it all in the way of dynamic Web pages, take a moment to check out WebCollage, a program with a new take on GIF generation. WebCollage makes "dynamic graphics," graphics that change based on new data culled from a Web page or database. For instance, a dynamic graphic might change its color based on a fluctuation of the stock market. WebCollage changes the graphics, leaving Web designers with nothing to do but code just as they would for any ordinary GIF or image map.

CREATING A COLLAGE

Step One: In a template, the static element is the yellow starburst, the dynamic element is the "http" call (set to red) within the starburst. In a separate window, we've told WebCollage where to go out on the Web to retrieve the data to display as the dynamic element. Note that the one temperature we really wanted was buried in a table.

Step Two: Set up an update schedule for when WebCollage should turn the template into an image and upload it. Here, we've scheduled WebCollage to update the temperature once every two hours. The new data can go either straight to upload or to a folder for a collective FTP.

Step Three: Take a look! You can include this in any Web page and have live data. Now that we know the temperature's right, we're booking tickets.

Dynamic graphics begin as "templates." Templates contain a mixture of static and dynamic objects. A static object is the unchanging element of the graphic; for example, the shape of the graphic itself. A dynamic object simply can display the date and/or time generated by your Mac's System clock. More important, a dynamic object can show a portion of a Web page or the result of an AppleScript or Frontier script. Such a script might query a database (perhaps for the latest pricing on a sale item), generate a random number, or change an object's color (transparent is a color choice).

Specific dynamic objects, in this case called URL objects, can show any element of a page's contents, including images and H1-headers. This tool makes it possible to show stock quotes, news headlines, and other tidbits for personal consumption on a home page, or a large company might use it to summarize information scattered on pages throughout an intranet. You specify the end of the display with a similar level of detail. This option is flexible but not infallible. For instance, you can show an entire table or a single cell but not a cell range. Additionally, although we easily tweaked the HTML on our own site to work with WebCollage, some external sites were more difficult, particularly if the pages were complex or poorly coded.

WebCollage includes numerous image-creation features, such as rulers, a snap-to-grid option, and an Align Shapes command that aligns objects along their edges or at their centers. Objects can be grouped, assigned URLs (for use in an image map), colored, and have their edges rounded, beveled, or fragmented into a starburst. It's not Adobe Illustrator, but for simple work, you may not have to fire up a big drawing program.

Completed templates come to life in the Web Collage Assembler, a separate program that generates PICTs or GIFs, plus image map files, on a customizable schedule. Timing options range from once a minute to once a week. Although you can schedule an update for a specific time once a day, you cannot schedule an update for two specific times per day, unless you set the schedule at one of those times.

After setting the schedule, leave The Assembler running. At the times you've determined, it will merge a template's static and dynamic elements into an image file. It will save the file locally and (optionally) send it via FTP to a Web server.

Although WebCollage has a well-designed interface, this package isn't for computer novices. The URL tool requires some HTML knowledge, and to fully experience WebCollage you must be script savvy. For instance, through scripting you can bypass limitations such as not being able to display a cell range. On the other hand, if you whip up scripts faster than you whip up omelets, you will appreciate the many places where scripts can modify WebCollage's behavior.

WebCollage is well documented, well designed, and rather well mannered. It may be prohibitively pricey for individual tinkerers, but for sites looking to add pizzazz or quickly share changeable data, WebCollage may be the cat's pajamas of a solution. —Tonya Engst



GOOD NEWS: Mac-like operation. Automates otherwise tedious tasks. Scripts give advanced functionality.

BAD NEWS: Advanced functions aren't available to nonscripters.

reviews



reviews

Peak LE

COMPANY: Berkley Integrated Audio Software (BIAS)

CONTACT: 800-775-BIAS, <http://www.bias-inc.com>

PRICE: \$99 (direct)

REQUIREMENTS: 68030 or faster processor, System 7.1 or later

E editing digital audio files used to require thousands of dollars for hardware and software. Now, with Peak LE (Limited Edition), it costs only \$99 and needs no additional hardware.

First, you must have a sound file. Get one from the Web, from a disc, or create your own. When you choose where to save the file, Peak LE can automatically select the drive with the most room. Monitor levels show you how much signal you're creating. (In digital audio, going over the zero threshold level creates horrible noises.) The recording window tells you how long the file is in seconds, milliseconds, or samples, and how many recording minutes remain, based on the space on your hard drive.

The design of the sound-file window (above) is functionally exquisite. The top part is a full view of the whole wave file. Below, you may view the sound file at any "resolution," from the smallest selected bit to the whole file; you can zoom in (or out).

Along the bottom of the window is information that tells you if blending (a user-defined cross-fade at edit points to avoid clicks and pops) is on or off, the time and amplitude axes, how long a selection is, and how far away it is from a reference marker.

File Formats

Peak LE supports several audio file formats. These files have unique headers and contain device parameter and specific coding information.

AIFF: Apple's Audio Interchange File Format. A good choice for cross-platform audio, it supports any bit depth and is Peak's default format. Maximum bit depth is 16; sample rate is 48K.

.au: Probably the most frequently used audio file type on the Internet. The sound quality isn't great, but its relatively small size and its ability to play on just about every operating system account for its popularity. Peak (but not LE) will open a file in this format but not save in it. Maximum bit depth is 8; sample rate is usually 8K mono.

QuickTime: Apple's audio file format for QuickTime-based multimedia files. Maximum bit depth is 16; sample rate is 48K.

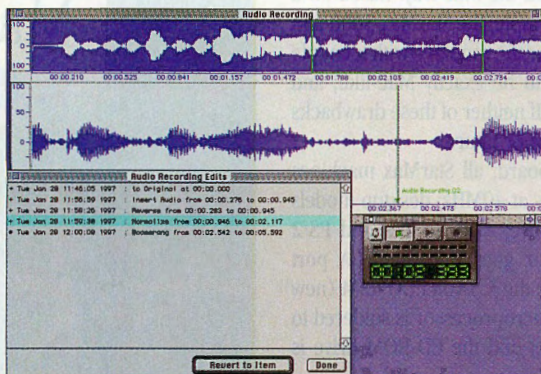
.ra: Progressive Network's RealAudio format. It encodes files for streaming audio on the Web. Peak saves files in this format, but LE doesn't. Highly compressed bit rate at 32K in ISDN mode.

Red Book Audio: The Audio Engineering Society's specification for audio CDs. Maximum bit depth is 16; sample rate is 44.1K.

.snd: The Mac 8-bit sound resource. Our resplendent Mac system alerts and beeps are in this format. Maximum bit depth is 8; sample rate is 44.1K mono.



RIDING THE SOUND WAVES: Peak LE isn't as full featured as the complete version, but the interface isn't dumbed down.



WHEN YOU DID WHAT: Imagine if every program had unlimited undos. (Peak LE does.) Paradise would be that much nearer.

Peak LE's three marker types are easy to work with. Reference markers identify a fixed location in the sound; for example, the point at which a sound starts. Anchor markers are attached to an exact point in time; say you're editing a voice-over track, and the announcer needs to say a word at six and a half seconds—the anchor marker will stay at six and a half seconds. Loop markers indicate the beginning and end of a loop. You can change and adjust them while the file is playing, so you can hear when you've found the perfect loop points. You can create and edit all three

markers while recording or playing back a file.

In addition to cut, copy, paste, and crop, digital signal processing (DSP) operations such as normalize, change gain, and reverse are included. Some of Peak LE's sexy features include reverse boomerang (the selected audio is reversed and then mixed back in at a user-determined level) and gain envelopes and fades (you can create, save, and store your own multistage envelopes and fades). Peak LE also supports up to three Adobe Premiere audio plug-ins.

Because Peak LE offers an unlimited number of undo/redo commands, you can experiment and tweak to your heart's content; the only limitation is hard disk storage space. The program lists all the edits you've made since your last save, so you can easily revert to any state from the list. After you've edited your sound, you can save it in AIFF, Sound Designer II, QuickTime, .wav, or System 7 Sound file formats.

Audio editors will be able to get around in Peak LE easily. If you're a newbie, look to the online help and the full version of the manual (download it from the BIAS Web site).

The full version of Peak (a \$299 upgrade) contains more innovative DSP functions, playlists, and batch processing; allows unlimited plug-ins; saves files in RealAudio and Red Book formats; permits several loops per sound file; and can use AppleScripts for automated playback and file searching in HyperCard or Claris' FileMaker Pro.

Peak LE offers an easy entry into the world of sound design and provides a reasonably priced upgrade path. Those interested in audio on the Mac should start creating here. —*Judy Munsen*



GOOD NEWS: Innovative sound editor gives you even more than you pay for. Compelling upgrade path.

BAD NEWS: Can't save files in .au format.



FIND A DEMO of Peak LE on The Disc.



reviews

StarMax 3000/240, 4000/200

COMPANY: Motorola

CONTACT: 800-759-1107, <http://www.motorola.com>

StarMax 3000/240 minitower

PRICE: \$2,195 (street)

StarMax 4000/200

PRICE: \$2,495 (street)

Motorola, of pager fame, has joined the Mac fray. Based on a motherboard co-developed with Apple, the StarMax 3000 and 4000 lines provide a lot of Mac for the moola—with a couple of caveats. Don't expect the hardware to be exactly Mac-like, and don't plan on upgrading your processor. If neither of these drawbacks bothers you, there may be a StarMax in your future.

Because they use the same motherboard, all StarMax machines share some characteristics: The bus runs at 40MHz; desktop models have three PCI slots, and towers have five; ADB devices and PS/2 keyboards and mice work; the monitor goes into an SVGA port (requiring an adapter for Mac monitors); the 3.3-volt EDO RAM (new to Macs) is expandable to 160MB; the microprocessor is soldered to the motherboard and is not upgradable; and the CD-ROM drive is ATAPI, not SCSI.

When you go through the technical laundry list, the Tanzania-based clones seem to have more in common with the PC than with the Mac. For example, the floppy disk drive looks as though it comes straight from a PC, and StarMax cases are held together with a bunch of screws. Motorola says that by using more "standard" (read: PC) parts in the StarMax, it keeps the cost down. The prices of the StarMax lines are low compared with similarly configured Apple Macs and Mac OS compatibles from Power Computing and UMAX Computer.

Intended for home users, the StarMax 3000/240 minitower is built around a 240MHz PowerPC 603e processor and includes 32MB of RAM, a 512K Level 2 cache, a 2.5GB Enhanced IDE (EIDE) hard drive, 4MB of VRAM, an ATAPI 8X CD-ROM, and a 28.8Kbps Motorola fax/data modem. The StarMax 3000 series comes with a practical software bundle including ClarisWorks, Intuit's Quicken, Now Up-to-Date & Contact, and Norton Utilities. When setting up the 3000, we hit a hitch—no monitor adapter. Once we found one, setup went smoothly.

Meant for the business world, the StarMax 4000/200 desktop model has a 200MHz PowerPC 604e processor with 16MB of RAM, a 512K L2 cache, 1.2GB EIDE hard drive, 2MB of VRAM, and an ATAPI 8X CD-ROM. Again, you need an adapter to use a Mac monitor, but this was our only hitch on setup.

Mac clone compatibility isn't usually an issue, but because StarMax clones use ATAPI CD-ROM drives, Motorola is careful to warn that not all CD-ROMs will work with this drive. The problem is "some programmers mistakenly assume that all Mac OS computers use a SCSI CD-ROM drive." This means a StarMax may fail to find or eject a CD-ROM. (We did not encounter this problem.) Also, because the



IF YOU DON'T MIND a few PC parts, the StarMax performs well for its price.



THE STARMAX MINITOWER offers five PCI slots.

hard drive is an EIDE device, you won't be able simply to slam in a second internal hard drive—you'll have to fill a PCI slot with a SCSI interface card, adding hundreds of dollars and losing slot space.

Motorola's five-year warranty is as good as it gets in the industry. The systems are solid and responsive, and they work like a Mac. On the other hand, the hardware has an un-Mac-like bent. If Motorola had spent the money to include a monitor adapter and make the processor upgradable, then it really would have something. If you're looking for a great price on a fast Mac, look into StarMax. If you demand a lot of

upgradability, and if industrial design is important, you may want to look elsewhere. Prices seem to be continuously falling in the Mac market, so you may find something comparable for the same price very soon. —David Reynolds

StarMax 3000/240 minitower

GOOD NEWS: Great price, great warranty, good performance—about what you'd expect from Motorola.

BAD NEWS: Non-Mac standard parts (PC-style floppy and ATAPI CD-ROM drives) may turn off some Mac purists. Processor not upgradable. ATAPI CD-ROM may cause incompatibility problems.

StarMax 4000/200

GOOD NEWS: Good price, good performance. Cute case.

BAD NEWS: Non-Mac standard parts, nonupgradable processor. Only three PCI slots in low-profile case. Lacks any distinguishing features.

reviews

Design Your Own Home



reviews

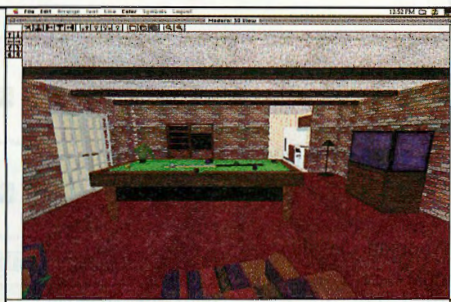
COMPANY: Abracadata

CONTACT: 800-451-4871,

<http://www.abracadata.com>

PRICE: \$99.99 (SRP)

REQUIREMENTS: 68040 with FPU or PowerPC (recommended), 27MB of hard disk space, 8MB of RAM (16MB recommended)



WELCOME to your new playground!

Design Your Own Home (DYOH) is to computer-aided design what MacPaint 1.0 is to drawing. It's simple, straightforward, and a little clumsy. With DYOH you can lay out a house or office in a matter of minutes, then walk through the 3D rooms. No complex tools here—just a quaint look and feel.

DYOH uses a combination of 2D and 3D views—2D for building and 3D for walking around. It took only a little playing to build a room without a hitch. We created walls, a table or two, even fish tanks and pool tables. DYOH also provides scores of furniture choices and renders finished rooms well.

Unfortunately, scroll bars aren't enabled in the 3D view. Navigation requires using arrow keys or clicking arrow buttons in

the toolbar. On a Power Mac 9500/150 DYOH is fast enough, but on a 40MHz 68040 it is painfully slow. Speedy navigation is important because when you drop into a 3D view, you're about 20 virtual feet away from your building. You must walk up to and through a wall to get inside. You can't go directly to a spot, nor is there any way to tell where you are via the 2D view, except to note the furniture.

DYOH doesn't seem quite finished in other ways as well. For example, color is available only through a color wheel. Don't expect Pantone palettes or numerical RGB entries.

The manual is comprehensive and clear, and technical support was fast and friendly. Although DYOH is a bit clumsy, at about one-tenth the retail price of Diehl Graphsoft's MiniCad, it's not a bad deal for creating your dream house. —*T. Kelley Boylan*



GOOD NEWS: Easy to use. Plenty of tool libraries.

No learning curve.

BAD NEWS: Clumsy interface. Requires relatively fast processor.

THE POWER STRIP EVERYBODY LOVES — FOR MAC ADDICTS EVERYWHERE!

PowerKey "Classic"



"I could not live without mine!"

"PowerKey is way cool!"

"One of the best made and packaged products I've ever bought!"

"I have been waiting for something like this ever since I got my Mac!"

"Love it! Keeps our web server running."

"Once you use one, doing without it is unthinkable."

PowerKey Pro Model 200



THE WORLD'S SMARTEST POWERSTRIP, POWERKEY PRO MODEL 600

The PowerKey Pro Model 600 gives you complete control of your Mac! It provides individual control over each outlet using manual switches, or programmed events created with the PowerKey Editor. Each outlet has its own power status indicator.

In addition to turning your system on or off with a telephone call, the PowerKey Pro Model 600 allows you to use telephone tones to toggle outlet power, load applications, restart computers, and much more!

PowerKey Pro is Apple Event compliant, allowing creation of custom functions.

Server crash detection / automatic restart capability is built into every PowerKey Pro Model 600.

To join our family of PowerKey users, or to learn more about "The World's Smartest Power Strips" call us or send us e-mail today!

800-769-3773

info@sophisticated.com

©1997 Sophisticated Circuits, Inc.
PowerKey is a registered trademark
of Sophisticated Circuits, Inc.



SOPHISTICATED CIRCUITS, INC.

19017 120th Ave NE #106

Bothell, WA 98011

206-485-7979 FAX: 206-485-7172

<http://www.sophisticated.com>



reviews

Cumulus 3.0

COMPANY: Canto Software

CONTACT: 415-905-0300, <http://www.canto-software.com>

PRICE: \$99.95 (SRP), \$29.95 for upgrade from version 2.5

REQUIREMENTS: 68K or Power Mac, System 7.0 or later, 2.5MB of free RAM, Color QuickDraw, CD-ROM drive



FIND A
DEMO
of Cumulus
on The Disc.

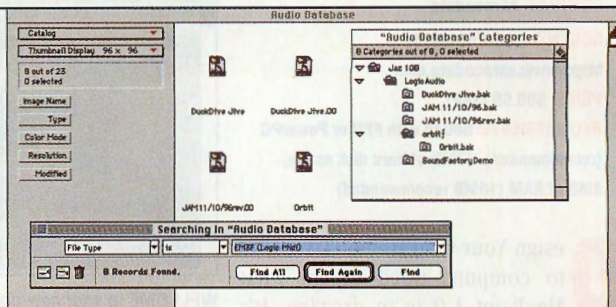
Cumulus 3.0 stores information about your media files—graphics, movies, and sounds, for example—in a database catalog structured much like your Macintosh desktop: You have catalogs, categories, records, and status, which are analogous to your Mac's volumes, folders, files, and labels. With a theoretical limit of somewhere between 50,000 and 200,000 records, you'll probably run out of disk space before you run out of catalog. You can link and search multiple catalogs with Cumulus' powerful search engine, so catalogs stored on CD-ROM also can be accessed along with the catalog on your hard drive. Graphics, multimedia, and Web professionals are the natural beneficiaries of all this database technology, but many other computer users can probably put Cumulus to good use.

Cataloging is easy—just drag and drop a volume, folder, or file onto either a category heading in the category window or an open Catalog Window to initiate cataloging—that is, if Cumulus recognizes the file type via one of its many internal file filters. Files are cataloged automatically not only by name (with a custom icon for display in the catalog window) but also by any keywords or text included in the files. Besides an unlimited number of categories, records also have a status (there are 256 user-assigned labels), which adds even more cataloging flexibility. Each record's notes can contain up to eight pages of searchable text.

But what if Cumulus doesn't have a filter for files created by that shareware application you just downloaded? No problem. Cumulus comes with a small utility, Cumulus FilterGenerator, that quickly creates file filters. My copy of Cumulus didn't know an EMAGIC LogicAudio file from a Macromedia Director or Sound Designer 2 file. I created the filters easily, saved them into Cumulus' File Filters Folder, and launched Cumulus. I then cataloged all my media files *tout de suite*. Sweet!

Cumulus takes the idea of keywords and runs with it: Keywords are now categories and are depicted hierarchically in the category window just as the Finder displays a volume and its contents. New categories are easy to create, and categories (even aliases of categories) can nestle inside other categories. You can import categories as text or take them from other Cumulus catalogs, so you can easily enlarge your catalog database and all catalogs will have a similar category structure. Because the organization is displayed graphically, it's easy to visualize and edit.

The search capabilities of Cumulus are second to none. The separate search window has two main sections: The top defines the



THE CUMULUS WORK ENVIRONMENT is open and easy to understand, given that you understand the Mac Finder.

search conditions (criteria, operator, and value), and the bottom controls or modifies the search action. The search condition operators (for example, "is," "is not," "contains," "does not contain") are powerful and contextually related to the dozen or so criteria, which include the following, among others: image name, file name, file type, resolution, and color. The results quickly display in the catalog window as text or thumbnails with information about each record. Your source files (if available) can easily be opened or copied via menus or key commands, or dragged and dropped into other applications or locations.

Cumulus 3.0 has two problems. The first is the relatively sluggish drawing of thumbnails each time the catalog window

fills or redraws—this occurs if you don't up Cumulus' memory allotment to at least 6MB. The second involves using files from a Wintel source, such as a CD-ROM. Cumulus opens and catalogs files based on information from the resource fork (which is nonexistent in a DOS-type file), so we couldn't get Cumulus to catalog a disc of otherwise usable GIFs. A custom filter didn't solve the problem, but there's a workaround: Save all files into a temporary folder with an appropriate file type and creator code, and catalog that folder instead. Then, because Cumulus is very handy at categories, manipulate the categories to reflect the actual source of the files.

The Desktop Plus version (which handles multiuser work environments across servers, costs \$595 and adds AppleScriptability, an Internet-based image server, and a royalty-free browser) properly catalogs all files, because it also uses the file extender to classify. All in all, not many gripes about a program that's as powerful as it is inexpensive.

Now there's no reason, even if you use only the personal edition, why you can't find that once-in-a-lifetime photo of an alien abduction/appendectomy that was taken April 1 at Area 51, in TIFF format in 3D. —Richard d'Andrea



HERE'S YOUR BASIC CATALOG WINDOW after searching for EMAGIC MIDI files.



GOOD NEWS: Very powerful with easy-to-use controls.

BAD NEWS: Thumbnails fill the screen sluggishly.

reviews

Virtual Home Space Builder

COMPANY: ParaGraph International

CONTACT: 408-364-7700, <http://www.paragraph.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: 68020 or faster, System 7.1 or later, 5MB of RAM, 7MB of hard disk space, 256-color monitor, drag and drop, Color QuickDraw

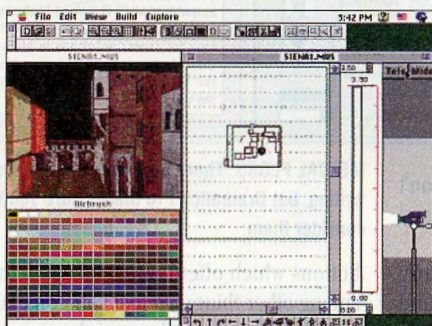
Virtual Reality Modeling Language (VRML) 2.0 creation for the Mac is here—finally. ParaGraph, a VRML-specific company, at last shipped its first Mac product, Virtual Home Space Builder. For VRML fans, this is a big deal. What makes it a bigger deal is that the software is good.

Setup and installation is supersimple, per Mac double-click style. The interface is so intuitive, you may not even need to crack the manual.

Virtual Home Space Builder (VHSB) puts a few windows onto your screen—not too many to be distracting but enough to accommodate different designing techniques. You'll get a plan view and a two-dimensional vertical view, to help in calculating ceiling heights and up-down perspective.

The package comes with an extensive texture library. The texture maps aren't "real," though; they're GIF and JPEG images that "glue" onto your surfaces. Power users can easily import true texture maps. You can attach sound and movie files, as well as URL links, to objects. VHSB also comes with a library of VRML clip art for anyone lacking the energy to model their own sofas and chairs. (Who could blame them?)

One advantage that VRML 2.0 has over version 1.0 is interactivity, so with VHSB, you can produce simple animations and include multimedia content with drag-and-drop ease. (Note that VRML is a continuously evolving standard, so check ParaGraph's Web site for software updates.) Although VHSB caters to the novice, it leaves plenty of room for the expert to add functionality, by supporting a wide range of file formats and languages. Overall, this is a fantastic product, especially for \$49.95. If you want to try VRML, get this package. And if you've already worked with VRML elsewhere but want to play with it on a Mac, this will satisfy as well. —*Shel Kimen*



WHAT A WONDERFUL WORLD: Virtual Home Space Builder's interface will be familiar to those who work with 3D apps, yet it's far easier to use.



GOOD NEWS: Makes VRML easy for everyone. Great bang for your buck.

BAD NEWS: Sometimes the output coloring is off. Might be too basic for advanced users.



XTension

There is just one...

Home automation for the Mac is back!

This time it's not a joke!

XTension the serious automation and security software finally challenges a world that the PC has dominated for 10 years. Stop wishing and stop running PC software on your Mac.

With the new inexpensive X-10 interfaces, and even an old MacPlus, you can create a great home system. Our customers report that it's easier and cheaper, and more fun than they ever thought.

Hundreds of products are already available from catalogs and from your local Radio Shack. From light dimmers to laser beams and pet feeders, you'll love the things that your Mac can do with **XTension**:

Multiple graphic views and active icons

Import your own Picts and icons

Works on Mac Plus and all after

Network all your Macs

AppleScript compliant

Sunrise/Sunset tracking

Written in 'C' - Fast and lean

Control other Mac apps

Schedule events and macros

Complete activity log

Simulated Pre-set Dim

AppleScript conditional logic

Mac voice control and annunciation

Works with ADB I/O, YoYo and QuickCam

Hundreds of compatible products

Works with **CM11A** and other interfaces

Software only: \$99.95 list

Free version for the CP290!

See our website at:

www.shed.com

XTension is available from your home automation distributor or from:

Sand Hill Engineering Inc.

email: sandhill@shed.com voice: 407-349-5960



reviews

Dramatica Pro 2.0

COMPANY: Screenplay Systems

CONTACT: 800-84STORY, <http://www.dramatica.com>

PRICE: \$300 (street)

REQUIREMENTS: 68020 or faster, System 7.0 or later, 4MB of RAM, 10MB of available hard disk space

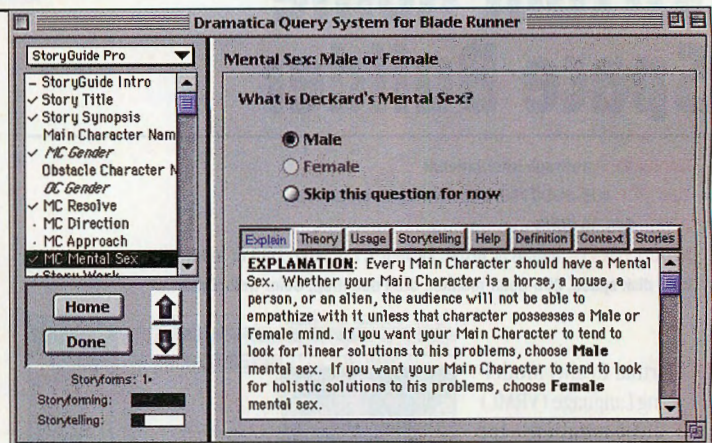
Dramatica Pro 2.0 is innovative, feature-packed, and expensive. In brief, this program aids the pro storyteller in developing the smallest germ of an idea into a coherent, grabbing narrative. While it won't write your screenplay (or novel or teleplay) for you, it is possibly the most useful tax write-off a writer can take this year.

Unlike the typical film-writing instructor, Dramatica won't discourage you from drafting an action film with a female lead. And unlike your creative writing instructor in college, it won't tell you that you're a weak stylist because you don't write like Raymond Carver. Dramatica exists only to serve you and whatever story you're attempting to write.

Dramatica facilitates the writing process through its "story engine" and its extensive documentation. The entire four-pound package includes two substantial paperbacks: the User's Manual which leads you step-by-step through the program and the 400 page *Dramatica: A New Theory of Story*, which describes Dramatica's philosophy. The latter book, in particular, is a worthwhile read. It familiarizes you with the terms used throughout the software's development process and refers to multiple examples of films, plays, and books, which also are analyzed in Dramatica's story-engine format.

Dramatica's story engine takes all the book theory and puts it to use. The story-engine asks you a series of questions about your project, ranging from its proposed title to the "physics" of its plot. The process has a fun puzzle quality to it, allowing you to tune out your barking dog or your inner critic. When you are finished answering the questions, Dramatica narrows down your story to one of its over 30,000 "storyforms" allowing you to print reports on your progress and see what previously you could perhaps only intuit.

While answering these questions, Dramatica always makes sure you have plenty of documentation to follow. The User's Manual acts as an able tutor, and each dialog box includes eight quick-reference



MENTAL FLOSS: There are many little things you might not think of while writing, but Dramatica Pro makes sure you have the chance to at least consider them.

buttons which offer help, concept definition, and story examples, among other things, so that you don't fall off track.

Once you get the hang of the program, there are several more areas to explore. The "Characters" tile helps you to define the characters in your story and lets you visualize them with over 500 icons. A Theory Help tile gives a nice brush-up to the New Theory of Story.

But the Brainstorming tile is the program's best auxiliary feature. If you're in a situation in which you can't answer one or several of the story engine's queries (i.e. you have writer's block), Dramatica takes whatever information you've input so far and generates a random storyform that incorporates these elements along with others you've yet to answer. You might have to give it several tries before you land on the right version for the story you're trying to tell, but it sure beats playing endless games of Solitaire.

Dramatica Pro does have one glaring omission. Though it provides a book of program worksheets, particularly necessary for the storyweaving stage, it does not provide the set as templates in the software. Good computer software shouldn't force you out to Kinko's each time you want to develop a new story. We all bought printers for a reason.

Dramatica Pro's other drawback is that it is expensive. As a novice writer or just as someone with minimal cash flow, spending \$300 on one program is daunting—even if Screenplay Systems offers a 30-day money-back-guarantee. For those who fit the above profile, Screenplay Systems offers *The Writer's Dreamkit* (\$100, street). While it doesn't offer the Dramatica theory book or several of Dramatica Pro's extras (such as the brainstorming), it has the same basic story-engine and helps you to reach the same basic goal. And if you fall in love with the program, the upgrade to Dramatica Pro is the difference in cost between the two. That's a fair a deal as you'll find on the Boulevard of Broken Dreams. —*Robyn Weisman*

CASE STUDY: Dramatica Pro steps through many examples, so you can get a little boost over those challenging writer's block hurdles.



GOOD NEWS: Innovative interface, excellent documentation.

BAD NEWS: No Storyguide worksheet templates on disk. You have to photocopy "masters."

reviews

Conflict Catcher 4

COMPANY: Casady & Greene

CONTACT: 800-359-4920, <http://www.casadyg.com>

PRICE: \$59.95 (street)

REQUIREMENTS: Mac Plus or later, System 7 or later, 1MB of hard disk space

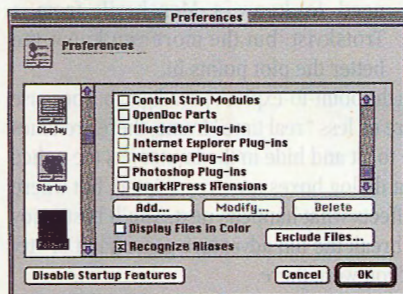
There are few pieces of software that should be a part of every Mac user's stable. Conflict Catcher 4 is one of them.



FIND A DEMO of Conflict Catcher on the Disc.

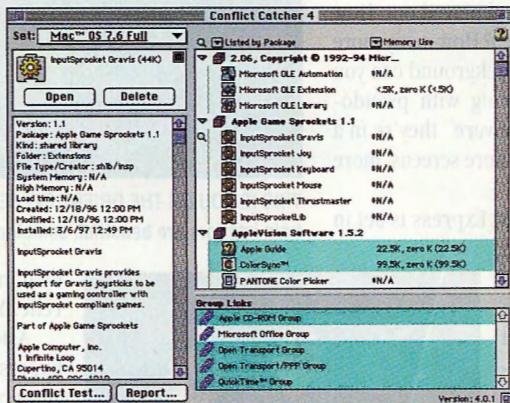
For about \$60, you not only can wrestle extension conflicts into submission but also can swap sets of browser or Adobe Photoshop plug-ins with a single click, visit Mac trouble-shooting Web sites, maximize your RAM, even tweak PowerPC systems for performance.

Conflict Catcher's core features (such as enabling and disabling extension sets, displaying normally invisible startup files, and testing for conflicts) are still there, only



STARTUP FILES aren't the only things Conflict Catcher sees. You now can juggle plug-ins for Adobe Photoshop and Illustrator, Netscape Navigator, and other applications. Spiffy!

better. Its extension management now offers multiple ways of viewing your extensions (such as by package, load order, and RAM usage) and includes links. Links are either groups of extensions that need to load together (such as Apple's CD-ROM software or Microsoft Office) or groups of extensions that fight over the same resources and thus should never be loaded together. Conflict Catcher's conflict



THE NEW INTERFACE includes information about each startup file as well as linked startup packages.

testing is friendlier and more automated, and it's able to isolate (and possibly solve) problems between extensions.

Version 4 also sports some new menus. The Web menu includes links to several Mac-related sites (including Mac trouble-shooting and information sites), and the Startup Disk menu shows all eligible startup disks without going to the Startup Disk control panel.

One of the most useful and probably underused features of Conflict Catcher is the System Report. It examines your System in detail for active and inactive extensions, how much RAM they use, and what extensions use traps that emulate 680x0 code. By examining the results of System Report in detail, you can figure out how to squeeze the highest level of performance and the most RAM out of your Mac.

Conflict Catcher 4 is a must-buy utility. Oh, sure, you can get by without it—until that fateful day when you run afoul of an invisible extension that brings your System crashing down and you have to do a manual conflict test. —David Reynolds

GOOD NEWS: Great conflict testing. Now juggles plug-ins.

Can view by package. Allows for fine-tuning systems. Access to up-to-date online library.

BAD NEWS: Can't solve all your Mac-related problems.

Mac ADDICT

ADVERTISING

HOW TO CONTACT US

To reserve ad space in the magazine, on the MacAddict website or for more information, please contact:

**ADVERTISING
REPRESENTATIVES
(415)468-4684**

André Lengyel, ext.416
National Ad Manager
Bay Area, Northwest,
and Western Canada

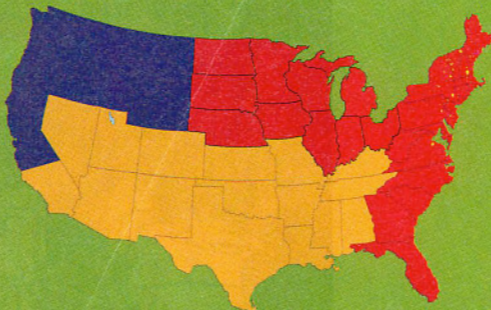
André Lengyel, ext.416
National Ad Manager
Southwest and
South Central U.S.

Christina Sorrentino
Regional Ad Manager
(516)421-2832
East Coast and North
Central U.S., Eastern Canada

Mary Lachapelle, ext. 417
Account Manager
Mail Order/Marketplace

Patricia Neuray, ext. 120
Publisher

Jana Massey, ext.194
Ad Coordinator



FAX (415)468-4684
WWW.MACADDICT.COM

imagine
a new way of publishing

MacAddict
150 North Hill Drive
Brisbane, CA 94005



reviews

The Last Express

COMPANY: Brøderbund Software

CONTACT: 800-521-6263, <http://www.lastexpress.com>

PRICE: \$39.95 (street)

REQUIREMENTS: PowerPC, System 7.1.2 or later, 9MB of free RAM, 35MB of hard disk space, 2X CD-ROM drive

Sometimes the adventure game genre can feel played out. How many more Myst clones can you click through? How many more bad actors emoting against a blue-screen background can you endure? Some games try to innovate by playing with pseudo-postmodern conventions (narrators who are "aware" they're in a game, for example) or by trying to wow you with more screens, more dissolves, more, more, more.

Or a game could try to be original. The Last Express is set in 1914, on the Orient Express bound from Paris to Constantinople. Instead of a moribund, rendered, and empty environment, the game's look is contemporary to the plot: The scenery and characters are in a bright and strong art nouveau style. The characters sometimes aren't fully animated (instead, they fade from point to point), but they look natural and real. The actors were filmed and then the art was drawn over the film (a technique known as rotoscoping).

Gameplay begins with your character, the dashing American Robert Cath, jumping onto the Orient Express in transit from a speeding motorcycle. You're there to meet an old comrade, but you find that he has been murdered. Your ultimate goal is to find his killer and unravel the mystery of why he was on the train, but first you must dispose of the body and avoid the police. On the train with you is a wealthy and mysterious art collector, a harem, a beautiful concert violinist (and spy?), explosive Russian revolutionaries, and a man who, thinking you are your dead friend, wants to conclude some shady



THE FAMILY ON THE RIGHT has nothing to do with the plot, yet if you help the boy, he could help you.



THIS IS YOU ON THE ORIENT EXPRESS, as Robert Cath. Although the train interiors are beautiful, sometimes you just need to get out.



A BEAUTIFUL VIOLINIST and a German merchant? Or a spy and an arms dealer?

deal involving a lot of gold and a stolen relic. Y'know, your usual gang.

Aside from the graphics, The Last Express' best feature is the plot. Although you are thrown into the story with little time to get your bearings, once you're in, it's believable; if it were a novel, it would be a page-turner. Also, features are well integrated with the time period. You can pick up a newspaper and read real reports of the day, including ominous rumblings of war. To play, you don't need to know a Menshevik from a Trotskyist, but the more you know, the better the plot points fit.

Gameplay is based on the point-to-explore paradigm, but because events unfold over a more or less "real time" frame, there are times when you'll simply have to sit and hide in the lavatory as the police check rooms. Important dialog boxes are pre-scripted, but where you go—and when—affects what happens next. You'll best enjoy The Last Express if you break the old adventure game habit of "try everything" and act as if you were there.

The only complaint is that this is a difficult game to play casually. It might be best to bone up a bit on your World War I history and take notes while playing. The flip side is the immersive experience. To the game's credit, if you make a fatal error, such as pulling the emergency stop, the game gives you a brief endgame, then rewinds to the point of your error. Don't worry—you'll still have some work to do, figuring out the next correct move.

All in all, The Last Express is an impressive twist on the adventure game, and it's gorgeous. If you're accustomed to playing shooters, you may find the action slow, but if you regret never riding the Orient Express and enjoy the pace of train travel, you will relish this trip. —D. D. Turner

GOOD NEWS: Beautiful style. Good use of atmosphere and immersive sense.

BAD NEWS: Doesn't play well on slower machines. Sometimes hard to avoid a losing track.



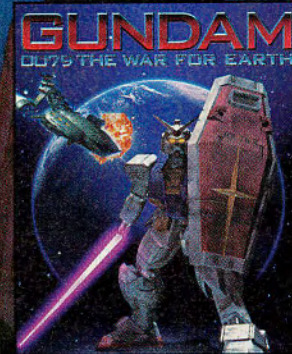
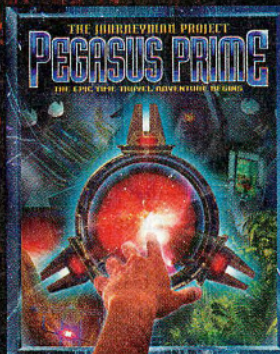
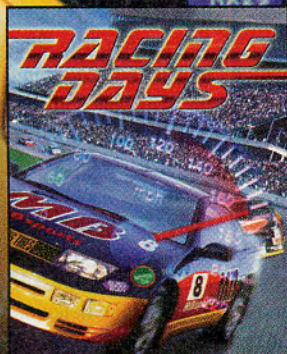
GAMES AS COOL

AS THEY GET

AND THERE'S

NOTHING PC

ABOUT THEM



COMING SOON FROM BANDAI DIGITAL ENTERTAINMENT

EXPERIENCE THE GEAR-GRINDING RUSH OF RACING DAYS, WHERE YOU CUSTOMIZE YOUR OWN RIDE, ROAD AND RACE. DIVE INTO THE DEEP SPACE FANTASY OF GUNDAM 0079 AND LEAD AN OFF-PLANET COLONY INTO BATTLE AGAINST ZEON AGGRESSORS. OR TRAVEL THROUGH TIME TO THE SURREAL LANDSCAPES OF PEGASUS PRIME, THE NEXT STEP OF THE JOURNEYMAN PROJECT. **THEY'RE WHAT YOUR MAC WAS MADE FOR-AND MADE JUST FOR YOUR MAC!**

www.atworld.net
TEL 888 992-9000



© 1997 Bandai Digital Entertainment Corp.; Racing Days © 1995, 1997 Bandai Digital Entertainment Corp.; Kiti Peak, Inc. and their licensors. All rights reserved. Gundam 0079 Mobile Suit © 1997 Bandai Digital Entertainment Corp.; Sotsu Agency-Sunrise, Presto Studios, Inc. and their licensors. All rights reserved. Pegasus Prime is a trademark of Presto Studios, Inc. Journeyman Project and Presto Studios logo are registered trademarks of Presto Studios, Inc. Pegasus Prime © 1997 Presto Studios, Inc. All rights reserved. © 1997 Bandai Digital Entertainment Corp. All trademarks and copyrights are the properties of their respective owners.



reviews

Leisure Suit Larry 7: Love for Sail

COMPANY: Sierra On-Line

CONTACT: 800-757-7707, 206-649-9800, <http://www.sierra.com>

PRICE: \$54.95 (SRP)

REQUIREMENTS: 68040 or PowerPC, System 7.1 or later, 16MB of RAM, 25MB of hard disk space, 2X CD-ROM drive

Larry Laffer never gives up, no matter what humiliation he suffers. He always trucks along, white leisure suit wrinkle-free, gold medallion swinging against his chest, bald spot combed over. His persistence would be admirable if his quest weren't simply to bed the next buxom female who comes along (and in Larry's world, they come along frequently).



THE BURNING BED of lost love. Well, she never really was a love, and she walked out. Notice the menus that pop up when you click on an object.

This, the sixth installment of Larry's adventures (there was no Leisure Suit Larry 4, for no apparent reason), picks up with Larry in bed with the dream girl from the previous episode. However, she comes to her senses and leaves him, and you have to get Larry out of the handcuffs and off the burning bed. (OK, the handcuffs have to do with romance, but the fire was an accident.) Gameplay is much the same as in previous chapters but with some graphical cosmetic surgery and a few nice interface tweaks.

No longer is Larry so pixelicious. Instead, characters are smoothly drawn and look and move like high-quality cel animations. Replacing the old-fashioned "reach into the inventory" interface is a context-sensitive menu system. You click on an item

or character, and a floating menu pops up with the relevant action options. Sure, it looks a little PC-like—that's where the idea came from in the first place—but it's less intrusive in the action and expedites play. Also, you have the option of typing in phrases (an option sorely missed since early Larry episodes)—either words for Larry to say or commands for him to carry out. Not only is this feature fun, but you'll



THAT'S DEWMI MOORE, and the name of the game is Strip Liar's Dice. It's actually more fun than the slots in Larry 5, though you may lose the medallion off Larry's chest.

need to use it to solve some puzzles.

The game's structure is much the same as always: Larry must make his way through a series of small challenges to obtain the final prize. In this case, it's the ship's captain. Capt. Thygh holds a competition on each cruise, and the winner spends a week with her in her private cabin. Larry must win contests in fashion, gambling, sexual prowess, and other arenas. Because this is Larry we're talking about, the only way to win is to cheat. Figuring out various underhanded ways around the rules is half the fun. The other half is trying to come up with the obvious pun before the narrator or Larry does.



THE FILTH LEVEL settings don't really do anything, but it's nice to see that Al Lowe owns a thesaurus.

In a way, Larry defies evaluation. Each new exploit is really the same old

story of sleazy pursuit, sly titillation, and inevitable deflation, but part of the charm is seeing Larry lose over and over and over.... You're sympathetic, but he is such an obtuse worm. Still, if you're a Larry fan, you'll like Leisure Suit Larry 7 at least as much as the previous editions. If you don't get the joke, you'll dislike it just as much. To me, it's a hoot. Hey, some people watch *Melrose Place*. —D. D. Turner



GOOD NEWS: More awful puns than you can shake a tiki torch at.

Once again, you can enter text for Larry to talk. Smooth animations.

BAD NEWS: Did we mention the bad puns? Really politically incorrect. Puerile but intentionally so.

(Easter) Egging Larry On

Apparently, there were too many bad jokes and puns to fit into regular gameplay. Or Al Lowe (Larry's creator) is hoping to sell these secrets on the side.

1. When you meet Drew Baringmore by the side of the clothing optional pool, a strategically placed palm frond bothers Larry. Click on it, type "push," and let Larry live a little. Very little.
2. In Capt. Quegg's ballroom, click on yourself and type "dream."
3. After looking at the stuffed beaver in the library (and listening to the narrator's bad jokes), type "milk." Nothing will happen then, but when you sneak into the Juggs' dressing room later, something will have changed.
4. The Where's Dildo? game-within-a-game is crucial to the ending. Make sure you find them all!

reviews

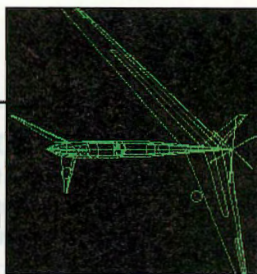
X-Plane

COMPANY: Laminar Research

CONTACT: 803-738-0910, <http://www.x-plane.com>

PRICE: \$249 (street)

REQUIREMENTS: PowerPC, System 7 or later, 8MB of RAM



WITH PLANE-MAKER you can create custom, funky aircraft.

Simulators are all about creating an environment enough like the real thing so we can pretend it is the real thing. X-Plane is serious simulation. It takes a different path from some sims, though, by focusing on the aircraft, not on the scenery. X-Plane provides an accurate flight model and gives a digital elevation map of the entire continental United States so you can fly near your home town.



FIND A DEMO of X-Plane on The Disc.

Installing X-Plane is easy. Simply drag a folder to your hard drive from the CD-ROM and—boom—you're done. Getting up and flying with X-Plane is a different matter, mostly because its interface isn't terribly intuitive—even the menus have been mucked with. Once you know where to go in the program, getting X-Plane to do what you want is pretty easy. Unfortunately, the manual is of little help. Only 16 pages are devoted to a flight simulator complex enough to have its own full-length book. (The sections for Plane-Maker and Part-Maker are better.) Start by choosing an aircraft from a long list. Then, take off from the default airport or call up a map and click on any flight point destination.

This is a flight simulator for aviation buffs, not scenery buffs. X-Plane uses precise measurements of simulated force on an aircraft that's been divided into several parts—and that simulation proves quite accurate. It highlights many other features that speak to its completeness as an aircraft simulator; e.g., fractal-based thunderstorm generator, IFR and VFR conditions, directional gyro drift, visible air traffic, a radar summary chart, and engine and instrument failure modes.

X-Plane includes Plane-Maker (to create custom aircraft) and Part-Maker (to create individual parts such as flaps) for those who want to roll their own. These programs are complicated, suited for the engineer rather than for the armchair pilot.

If you're looking for a full-featured flight sim with lots of depth and extensibility, or you're a pilot who wants to sharpen your IFR skills, X-Plane is for you. It's an accurate, complex simulator for those who need one. If your idea of flight simulation consists of playing Descent II, however, you should probably let X-Plane fly by. —David Reynolds



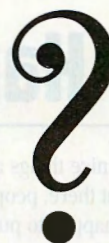
SAN FRANCISCO should be down there somewhere....



GOOD NEWS: The entire United States is simulated in the form of digital elevation maps. Realistic weather simulation. You can create your own aircraft and worlds.

BAD NEWS: Documentation is sparse. Nonstandard Mac interface. Scenery doesn't include rivers, cities, or roads.

BAD Day On The WEB



The Web can be so *cruel*.

One day you're golden—the bounty of the Global Village at your feet.

The next day, you're slogging your way through page after page of dross, hunting for information you know you saw before—but *where?*

End that static with Web Quick™, the elegant little 'smart bookmark' utility with automatic tracking.

Web Quick makes sure if you found a page once, you can easily find it again.

To use Web Quick is to love it. But don't take our word for it. Install your free 15-day trial copy from this month's CD, and take it for a spin today!

MacWEEK: "The first Web utility that is essential."

MacUser: "The cream of the crop."

Macworld: "Pros: Simple; convenient; essentially no learning curve. Cons: None."

Rolling Stone: "Makes the Web a lot more manageable."

The Net: "Extremely functional, with a very small footprint."

Webintosh.com: "The Holy Grail of Web utilities."

Web Quick

NEW! Version 1.4 on CD-ROM now!

No disk? Grab a copy from:
<<http://www.webquick.com/spider>>

©1997 Web Quick, Inc. 506 SW 6th Ave #602, Portland, Oregon 97204 USA. Phone: 503-417-2900.

Web Quick and the Web Quick logo are trademarks of Web Quick, Inc. All others acknowledged.

Available for Mac/Win95/NT4. Requires Netscape Navigator® or Microsoft Internet Explorer™.

One spider was harmed in the making of this ad.



reviews

Four Handy Thingies

One of the nice things about the Mac is that there are all these people out there, people not much different from you and me, who just happen to put together neat little programs that might be useful and/or fun. We took a look at a few of the programs that we like and think you might like, too.

Musket Fire

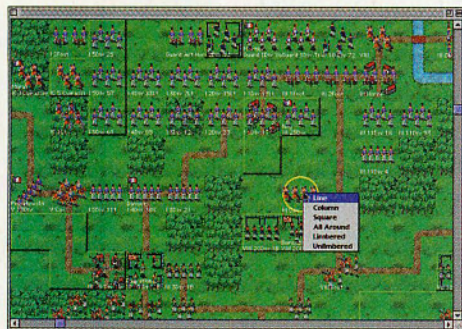
COMPANY: ...By Design Software

CONTACT: 800-527-7472, designinc@aol.com

PRICE: \$24.95 each for Borodino, Austerlitz, Waterloo (direct)



Musket Fire is a small but complete unit-by-unit recreation of Napoleonic battles. It's turn based and feels like a cross between Stratego and Close Combat. You move units according to move points per turn, and order them to fire or change formation (with a slick use of context-sensitive menus), until you've done all you can. Then it's your opponent's turn. A lot of historical research obviously went into this game, down to the terrain and names of battalion commanders. Although units are sometimes difficult to distinguish, the screen is never too confused for



IT'S JUST YOU, THE FIELDS OF BORODINO, and a few thousand of your closest friends and enemies.

play. One problem: When your opponent (the computer or another human) is racing troops here and there, you can't scroll the screen, so you inevitably miss part of what's happening. But, as they say, that's war. —D. D. Turner

ZipZAPP Pro

COMPANY: True BASIC

CONTACT: 800-436-2111, <http://www.qwikinfo.com>

PRICE: \$39 (direct)



Dialing 411 is great, until you need to know ZIP codes. Then you have to trundle down to your local post office and hope that no one has ripped off or desecrated the ZIP code reference book. Until the coming of ZipZAPP Pro, that is. With a small application on your hard drive and the CD-ROM in its place, you can find the ZIP code of virtually any place in the United States, searching by city or area code. You can even search by ZIP code. Why do this? Because ZipZAPP Pro also gives detailed information on any county, calculates distance (either by road or "as the crow flies") between cities, and lets you know the city's time zone, in case you'd rather call after all. It may seem like a pile of dry info, or something you'd haul out only once in a while, but almanac, map, or SimCity freaks could have fun for hours with this program. —D. D. Turner

Interactive Workshop

COMPANY: Interactive Media Services

CONTACT: 847-697-0990, <http://www.mediastuff.com>

PRICE: \$179.95 (direct)



So you bought a copy of Macromedia Director and blundered into the terrifying world of Lingo scripting. Fear no longer, because Interactive Media Services may have the solution: Interactive Workshop. You essentially get a Lingo shell that runs inside Director, writing the code for you. Build all your interface elements outside Director before you start, then launch Interactive Workshop. The program queries you to determine backgrounds, buttons, and media elements, and how you want them to behave. If you've never used Director or Lingo, Interactive Workshop is a pretty good introduction to multimedia authoring. It's also a good prototyping tool for nonprogrammers.



FEAR LINGO NO LONGER: Here's a way to get around Lingo scripting in Director.

On the other hand, if you take the time to work your way through the Macromedia tutorials, you'll probably get a lot more out of Director than you will by relying on Interactive Workshop. —Rick Sanchez

ConvertUnits Pro 1.5.6

COMPANY: GTA

CONTACT: 604-682-6929, <ftp://ftp.ari.net/pub/MACSCITECH/math>

PRICE: \$39.95 (direct)



Have you ever been handed 15 steradians and wondered how many spheres that would be? Wonder no more. ConvertUnits Pro can tell you (the answer is 1.194). This mathematical conversion program works with steradians and more than 1,500 other measurement units, which means you can make more than 120,000 kinds of conversions, all without having to remember the "2.54 Centimeter Worm" song. The interface is rather unadorned, but ConvertUnits Pro offers some powerful features, including compound unit input (hour, minute, time, for example); scientific, SI, or English notation; and the ability to work with significant figures. You can save a record of your conversions in a journal. You can't do batch conversions, however; nor can you input or save your conversions as a table or tab delimited text. Also, this utility isn't AppleScriptable, and very large numbers produce a "number overflow" error. Still, ConvertUnits Pro could make a lab rat's life a lot easier. —D. D. Turner

These are definitely not the usual suspects.



THE SPACE BAR™

A “*what-done-it*” mystery adventure CD-ROM by Steve Meretzky.



SEGA SOFT

WWW.THESPACEBAR.COM



©1997 SegaSoft Inc. Portions of The Space Bar ©1996 Rocket Science Games, Inc. Portions of The Space Bar ©1996 Boffo Games, Inc. All right reserved. SegaSoft and the SegaSoft logo are trademarks of SegaSoft Inc. Rocket Science and the Rocket Science logo are trademarks of Rocket Science Games, Inc. Boffo, the Boffo logo and The Space Bar are trademarks of Boffo Games, Inc. Windows® is a trademark of Microsoft Corporation. The ratings icon is a trademark of the Interactive Digital Software Association.



cd-roms

A HISTORY OF SANTANA ■ CHRONICLE OF THE 20TH CENTURY ■ NFL CYBERCARD: TIM BROWN ■ BODY VOYAGE ■ OCEAN LIFE: WESTERN PACIFIC

Sick of the beach already? Have we got the cure for you. This month we offer our opinions on a lame attempt to honor rock legend Carlos Santana, a weak excuse for a computerized NFL trading card, and a nauseatingly realistic tour of a convicted killer's

sliced-up corpse. As if that's not enough, we also tell you what we think of a disc that tries to do it all by dishing up historical tidbits for each day of the last 97 years. And, if you're still not satisfied, feel free to enjoy the other fish in the sea, on CD-ROM, of course. —Joe Mahr

A History of Santana: The River of Color and Sounds

COMPANY: Graphix Zone

CONTACT: 800-828-3838,

<http://www.gzone.com>

PRICE: \$39.95 (SRP)

REQUIREMENTS: 2X CD-ROM,

System 7.0 or later, 68040 or faster, 8MB of RAM



When Santana does appear on the disc, it's under the guise of giving guitar lessons for five songs—complete with snippets on technique, tone, and inspiration. Sounds groovy, but you hear only part of the song, and the grainy QuickTime hardly focuses on his hands. There are no diagrams or sheet music to follow along.

We haven't seen such a collection of pointless rock star paraphernalia since the tragic release of MacPlay's Tommy CD-ROM.

The Last Words:

Mark: Much as his music pains my ears, I guess this might be a handy resource for die-hard fans, but it'll be of absolutely no interest whatsoever to the rest of the human race.

Judy: A native San Francisco Bay Area gal, my love for Santana's music is probably geographically genetic—and even I am disappointed.

Joe: I'm giving Carlos the benefit of the doubt, that some slickster guru tricked him into signing onto the concept to spread "peace, love, and happiness." I know my Santana wouldn't purposely put out anything shoddy. Not my Carlos.



A SANTANA TRIBUTE only a sedated fan could stand.

Put on your tie-dye T-shirt, light up a...er, candle, and hang out with Carlos Santana...or at least look at his stuff. In Graphix Zone's new CD-ROM shrine to rock god Santana, Carlos makes only minor appearances so as not to take the focus off his nostalgic collection of buttons, backstage tour passes, and rock memorabilia.

Billed as a "river of color and sounds," when you take away the psychedelic-Tide-commercial interface there's nothing left but silly trivia. It's sort of nice to read a list of Santana's favorite songs, but we'd rather hear them.

Chronicle of the 20th Century

COMPANY: DK Multimedia

CONTACT: 800-DKMM-575,

<http://www.dk.com>

PRICE: \$39.95 (street)

REQUIREMENTS: 2X CD-ROM,

System 7.0 or later, 68040 or faster, 12MB of RAM



Not many CDs offer a thorough lecture on World War I and mention Martina Navratilova's lesbian palimony lawsuit a few clicks later. But, hey, not many tackle the entire 20th Century.

If they did, they'd find that it's hard to chronicle each day of the 20th Century on one CD and still make sense. The CD offers a brief news bite for every day of the century through 1996 and a news summary on key people and events for every month. But there are few context clues so it's hard to tie it together.

Eight sections on some of the century's defining events, such as World War I and the Apollo moon landings offer detailed histories, maps, facts on key players and strategies, as well as a plethora of QuickTime films. But it's a drop in the bucket compared to the tons of isolated facts crammed into every nook.

Ironically, that's also what makes the title intriguing. When you can hold the entire century in your hand, it's a pleasure to let your fingers do the walking. You never know what nugget of historical gold you'll discover.

The Last Words:

Mark: I'm reluctant to really slam this disc, because it is solid and information-packed, but it seems fundamentally misguided. I'd enjoy it much better if the stories had bylines and a point of view, and it wouldn't hurt if you could scroll the time line a lot faster, too.

Judy: For speedy, hard reference material, I'd use an encyclopedia or an online search, but for a comprehensive overview, this is it.

Joe: You just gotta love discs that tackle an impossible subject, and generally succeed, even if they're a little weird.



DAILY history doses taste like brain candy, but fill you up.



IF YOU'VE GOT THE GUTS to look at guts, get a load of The Body Voyage on The Disc.

NFL Cybercard: Tim Brown

COMPANY: Topps

CONTACT: 888-292-7849,

<http://www.cybrcard.com>

PRICE: \$19.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68030 or faster, 8MB of RAM



HUT. Hut. Yikes! For \$20, fans need a little more show.

Most kids probably can't afford these \$20 digital trading cards on their meager allowances, and most adults won't want to waste the cash. For all the title's videos, stats, and stories something is missing....

Pizzazz. There's a hint of it in places. The disc's "coach" diagrams play with QuickTime graphics and can be compared to QuickTime videos of the actual play. There are video highlights of Brown's best moves. And, what sports nerd wouldn't drool over the ability to customize stats and make their own trading cards?

But there are quality, as well as content, problems. The QuickTime clips shake more than the San Andreas Fault the first time they're played, navigation is almost impossible without referring to the opening screen, and there are no interviews with the stars of the cards.

It's neat to see Tim Brown running down the field, but how about talking to him about it? Or maybe a coach? Maybe teammates could even share a good wedgie tale or two. Come on, give the fans what they really want.

The Last Words:

Mark: I'm not enough of a sports fan to determine whether this is "Spiffy" or "Yeah, Whatever," but the fanatic Tim Brown groupie might find it worth the \$20 price tag.

Judy: Why is everything so dry? If you've got the technology, what about adding a little something about the guy's history, who he is, maybe even, now here's an idea, an interview.

Joe: Twenty bucks is steep for something without a word uttered by the subject. Maybe they could put a piece of stale cardboard gum with the disc. Yeah. Then I'd buy it.

Body Voyage

COMPANY: Time Warner Electronic Publishing

CONTACT: 800-510-1791,

<http://www.pathfinder.com/twep>

PRICE: \$39.95 (street)

REQUIREMENTS: 2X CD-ROM, 68040 or faster, 8MB of RAM



If this year's science project includes freezing and slicing the dead body of a convicted murderer, photographing the slices and scanning those pictures into a computer for a 3D model, sorry to say it's been done.

For 40 bucks, you too can check out the bod of Joseph Paul Jernigan, executed by lethal injection in 1993—his remains donated to science. One thing led to another and pictures of

his thinly sliced body ended up as part of a groundbreaking project by two Colorado researchers for an actual computer-image man. Nothing could be cooler and freakier at the same time. Peel off layers of his tissue, fly through his rib cage and twirl his brain around.

There's a body parts index with detailed explanations, and a thorough background on the project. It's quick-loading, clean, comprehensive, and well worth the money, so long as you can stomach the images.



CREEPY CADAVER reveals all!
Finally, a dead man that tells tales.

The Last Words:

Mark: The reference material and video narrative provide plenty of scientific context and food for thought. But after this fascinatingly clinical virtual dissection, I'll never look

at a Francis Bacon painting the same way again.

Judy: An outstanding melding of science, photography, and anatomy makes its way onto this stellar disc.

Joe: Unfortunately, there wasn't room on the disc for more. A fly-through of his digestive system would have been cool.

Ocean Life: Western Pacific (Second Edition)

COMPANY: Sumeria

CONTACT: 800-4SUMERIA,

<http://www.sumeria.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68040 or faster, 8MB of RAM



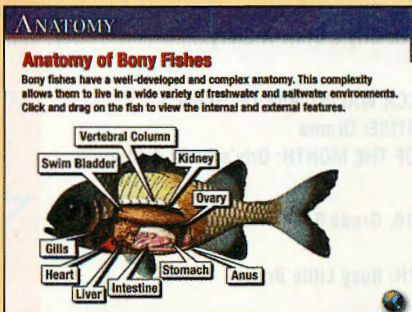
A must-see for any fish fan or diving enthusiast, this disc offers thorough coverage of the exotic, beautiful creatures that swim the Western Pacific, an easy interface, and extensive underwater video.

You'll gape at over 30 families of underwater creatures, including more than 100 species of fish in this latest edition of Sumeria's wet adventures. You'll also find over an hour of narrated video, maps of the diving areas, and a lecture on ocean currents and temperatures.

Reviewers are blunt about diving spots—

which ones are tourist traps, which ones are overcrowded, and which ones are undiscovered—at least until the disc comes out. And it's refreshing to hear Sumeria modestly say its eel coverage is "extremely thin." (Although the anemonefish are incredibly well-done.)

Of course, the disc still leaves a viewer with an itch for something more, like more graphics per animal or more information on destination prices. But it just oozes quality. So strap on an air tank and dive in.



YOU'LL SWIM with the fishes, and like it. A lot.

The Last Words:

Mark: I liked the Ocean Life discs in January, and I like 'em now. Just one request for Sumeria—next time, could we have more of my favorite, the cuttlefish?

Judy: Taxonomy, anatomy, ocean geology, maps, visual indexes and reef visits, plus the always handy control bar had me checking on airfares and scuba lessons in no time.

Joe: I don't know about anybody else, but this CD—besides being cute as all get-up, makes me hungry. Pass the tartar sauce.

reviews



Kidz Stuff

Brisbane Elementary School Mac addicts dish out reviews of this month's kids' CD-ROMs.

reviews

Busy Little Brains

COMPANY: Enchanted Learning Software

CONTACT: 206-232-4880, <http://www.EnchantedLearning.com>

PRICE: \$24.99 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 8MB of RAM



Beware: Those who dare to enter Gabby's playhouse had better be prepared to play. The cluttered toy room is covered in clickables that will have preschoolers counting dinosaurs as they hatch, creating connect-the-dot campers, and coloring in the outlines of rolling robots. Preschoolers learn basics such as numbers, letters, and colors as they point and click their way through the 40 fun toys that litter Gabby's messy life.

GOOD FOR GRADES:

Preschool to 1

LIKES: "It was fun and had good games."

■ Rebecca

"I liked the cartoon graphics and that in the beginning you can hear and see a lady singing somewhat opera."

■ Brian

"I liked the doll-

house."

■ Marc

DISLIKES: "It got bor-

ing and corny, and the dog kept saying, 'Hooray!'"

■ Hilary

"I did not like the voices in this program."

■ Alfonso

SOUND ADVICE: "3D graphics would be cool."

■ Brian

FINAL REPORT: Silly songs won't keep kids from toying with this

teaching title.



CUTE CLICKABLES entertain wee ones for hours.



FIND DEMOS of Busy Little Brains and Orly's Draw-A-Story on The Disc.

Meet the players...



JONATHAN BUTTON, Age 10, Grade 4

EXPERTISE: Computers

PICK OF THE MONTH: Busy Little Brains



ALFONSO PICAZO, Age 11, Grade 5

EXPERTISE: Sports

PICK OF THE MONTH: Orly's Draw-A-Story



JUSTIN PEREZ, Age 10, Grade 4

EXPERTISE: Drawing

PICK OF THE MONTH: Power Rangers Activity Center



DANIEL LAM, Age 11, Grade 5

EXPERTISE: Math

PICK OF THE MONTH: Orly's Draw-A-Story



BRIAN SCHROEDER, Age 11, Grade 5

EXPERTISE: Baseball

PICK OF THE MONTH: Busy Little Brains



HILARY WALDO, Age 10, Grade 5

EXPERTISE: Soccer

PICK OF THE MONTH: Orly's Draw-A-Story



REBECCA WALDO, Age 10, Grade 5

EXPERTISE: Drama

PICK OF THE MONTH: Orly's Draw-A-Story



MARC OLIVA, Age 10, Grade 5

EXPERTISE: Sports

PICK OF THE MONTH: Busy Little Brains

PrintPaks Super Iron-Ons Kit

COMPANY: PrintPaks

CONTACT: 800-774-6860, <http://www.printpaks.com>

PRICE: \$25 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68030 or faster, 8MB of RAM, printer



Crafty kids create their own T-shirt designs with PrintPaks' latest do-it-yourself kit. Max the hound guides you, step by step, through designing, printing, and applying an iron-on. The kit comes with transfer paper, glow-in-the-dark paint, and one large

kids' T-shirt to make a child's dream design become instant reality.

GOOD FOR GRADES: 3 to 5

LIKES: "I liked everything—it even had glow-in-the-dark paint to use on your T-shirts."

■ Hilary

"I liked the whole program."

■ Alfonso

DISLIKES: "Sometimes you are bad at drawing and you can't

find a picture that you want."

■ Daniel

"I didn't like the program. All you

do is select a picture, print it,

iron it, and wear it."

■ Brian

SOUND ADVICE: "Give the

people more T-shirts."

■ Jonathan

FINAL REPORT: The real source

of this fall's hot new fashions.



EVERYONE NEEDS IRON-ONS in their daily diet.



Power Rangers Activity Center

COMPANY: Gryphon Software

CONTACT: 888-8GRYPHON, <http://www.gryphonsw.com>

PRICE: \$49 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, Performa 550 or faster, 8MB of RAM



Pal around with the Power Rangers in their hometown of Angel Grove, which offers all the amenities of your average small town: local newspaper, movie theater, high school, Power Chamber at the edge of town, and flying saucer hovering above. During your visit, test your spelling skills against aliens, navigate a maze while being chased by aliens, or watch clips of the Power Rangers fighting aliens. Other activities include word searches, jigsaw puzzles, picture jumbles, concentration, coloring, painting, and a build-your-own Zord game.

GOOD FOR GRADES: Preschool to 5

LIKES: "It taught fun forms of learning." ■ Rebecca

"I liked the games that you can play." ■ Jonathan

DISLIKES: "If little kids in kindergarten play this, they will get the wrong idea and pull some Power Ranger moves on friends." ■ Hilary

"In the movies, they just show a part of a show of the Power Rangers." ■ Daniel

SOUND ADVICE: "I would make Bulk and Skull mean." ■ Justin

FINAL REPORT: These rangers are running at half power.



MOVE ALONG. Nothing new to report here.

Orly's Draw-A-Story

COMPANY: Brøderbund Software

CONTACT: 800-548-1798, <http://www.brøderbund.com>

PRICE: \$29 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1.2 or later, Power Macintosh only, 8MB of RAM



Jamaican-born Orly has a gift for gab that she puts to good work as she and her faithful frog, Lancelot, tell tales for kids to illustrate. Orly spins the stories but takes occasional breaks, when kids can doodle and dabble with a full array of paints, pens, colors, and patterns to create characters and images that will be included in the story when it starts again. Kids jazz up one or four of Orly's stories or create their own by writing the text, drawing the pictures, and selecting sound effects that range from the "ribbit" of a Jamaican frog to the screech of speeding tires.

GOOD FOR GRADES: Preschool to 5

LIKES: "They always go, 'Hey Mon.' That was funny. I like the Jamaican spirit!" ■ Hilary

"You can draw a picture, and the picture will be in the story, and you could draw an ugly person, and it will be in the story." ■ Daniel

DISLIKES: "There was nothing I did not like in this program."

■ Alfonso

SOUND ADVICE:

"Make more things that you can do, and add a little more help."

■ Jonathan

FINAL REPORT:

Whatcha waitin' for, mon?



DRAWING TITLE JUMPS with Jamaican rhythm and originality.

Thumbnail Theater: Treasure Island

COMPANY: Corel

CONTACT: 800-652-2178, <http://www.corel.com>

PRICE: \$39.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68030 or faster, 8MB of RAM



Shiver me timbers. Kids setting sail for Robert Louis Stevenson's *Treasure Island* might want to first get their bearings with a quick show at Corel's Thumbnail Theater. Relax and kick back for a delightful nine-minute animated summary of the classic tale, or go exploring. The title offers hot links throughout the main feature that take you to time lines and maps organized by land, battle, or treasure sites as well as to the profiles of individual cast members such as Jim Hawkins and Capt. Smollet. If the summary whets your whistle for the real thing, you can read the entire novel on the disc or print it out chapter by chapter.

GOOD FOR GRADES: 7 and up

LIKES: "Sometimes when you press on something, like a cannon, it does an animation, like the cannon will boom." ■ Daniel

"It was fun, it had good animations, and it teaches a lot."

■ Rebecca

DISLIKES: "I didn't like how they don't have many games." ■ Jonathan

Blind Pew



From Pew, we find out that what Billy Bones has stolen is a treasure map showing location of Cap'n Flint's buried loot.

Pew's not interested in giving Bones the choice of dead or alive. No, for him, dead will do just fine. Well, he and his mates find Bill, but Jim and the map elude them.

Fortunately, soldiers from the local garrison show up in the nick of time and accidentally dispose of Blind Pew.



Return to the Movie

STEVENSON'S STORY summed up in a jewel of a disc young pirates will treasure.

"I didn't like the history that it gave out." ■ Alfonso

SOUND ADVICE: "Make some more games." ■ Jonathan

FINAL REPORT: Younger viewers need an intermission with games.

The New Katie's Farm

COMPANY: Lawrence Productions

CONTACT: 800-421-4157, <http://www.lpl.com>

PRICE: \$39.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68030 or faster



Young city slickers will find this barnyard beginner a welcome breath of fresh farm air. Little Katie, who obviously has a lot of chores to do, asks for help in feeding and grooming the animals in her barn. Preschoolers not only get to hear what sounds pigs, horses, cows, and dogs make, they also learn what the beasts eat at lunch. Katie likes to play dress-up with imaginary animals in her bedroom, which means that kids can robe Katie's cow in a dress, heels, and hat, too. For the hard, cold facts, click on Katie's hat in the barn to access QuickTime movies and short write-ups for each animal.

GOOD FOR GRADES: Preschool to 3

LIKES: "I liked some of the games and some of the sound." ■ Jonathan
"You could feed the animals, and you could dress up a lot of them with hats, shoes, or a shirt in the closet." ■ Daniel

DISLIKES: "There should be more to do." ■ Rebecca

"I did not like the graphics in this program, and that is all I did not like." ■ Alfonso

SOUND ADVICE: "Make a better-looking Katie—she looks like a zombie." ■ Hilary

FINAL REPORT: Cross-dressing cows capture kids' imagination—and look swell in heels.



FEED THE ANIMALS and then dress them up in froufrou frocks. How fun.

Barbie Magic Fairy Tales: Barbie as Rapunzel

COMPANY: Mattel Media

CONTACT: 888-628-8359, <http://www.mattelmedia.com/barbie/rapunzel>

PRICE: \$29.99 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 33MHz 68030 or faster, 8MB of RAM



Long a fashion icon to little girls worldwide, Barbie ditches her reigning doll status to take on the role of fairy tales' finest, Rapunzel. But in this CD-ROM version of the story, it is the princess who saves the prince, by traveling the land and solving not-so-tough puzzles that involve girlish activities such as sorting dresses and decorating cakes. As if the games weren't insulting enough, Barbie is unconvincing, uninteresting, and as plastic onscreen as she is in real life.

GOOD FOR GRADES: Preschool to 3

LIKES: "It was fun solving the problems to find the prince." ■ Hilary
"This has a lot of puzzles to solve, and you could go to a lot of places in this program, like the bakery." ■ Daniel

DISLIKES: "I don't like how it's an old story and how you can't lose." ■ Jonathan

"I did not like the story. I did not like the prince. I hated Barbie." ■ Justin

SOUND ADVICE:

"I would make the people look happy. I would put more excitement in the people." ■ Marc

FINAL REPORT: The Nissan television commercial starring Barbie is more exciting.



BARBIE MERELY BORES as the long-locked princess.

Music Ace

COMPANY: Harmonic Vision

CONTACT: 800-644-4994, <http://www.harmonicvision.com>

PRICE: \$49.95 (SRP)

REQUIREMENTS: 2X CD-ROM, System 7.0.1 or later, 25MHz 68030 or faster, 5MB of RAM



If all you're after is a dry but thorough guide to music basics, then this dull primer is for you. Slow paced and simple, Music Ace teaches key terms and definitions as well as the difference between notes and their relation to each other on the musical staff. Kids create their own musical works, see the notes on the staff, and hear them played back. The potential for awakening the musical creativity in children, however, is lessened greatly by the disc's own lack of creativity.

GOOD FOR GRADES: 4 to adult

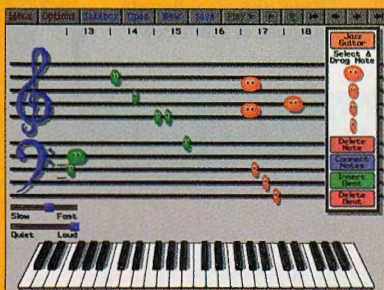
LIKES: "I liked the whole program. I liked the fact that it teaches music." ■ Alfonso

"You could learn songs like 'Happy Birthday' and other easy songs." ■ Daniel

DISLIKES: "It is boring and only has one game with no instructions... only four levels on one game. There are only two different things to do." ■ Hilary

SOUND ADVICE: "Make a mini piano come with the software so you could type whatever you like in the computer." ■ Daniel

FINAL REPORT: Musical disc seems almost out of tune with kids.



MISFIT MUSIC DISC hits a slightly sour note.

What the Adults Thought

Scrolling down the list of this month's titles, you'd think developers had gone girl crazy. Half of the discs feature young girls. For a male-dominated industry that produces software mostly targeting men and starring male characters, this is news. Have developers finally realized that computers are not merely boy toys but a girl's best friend, too? The glass ceiling may be cracked, but we hope no girls get thunked in the head by the falling shards. Take a closer look at this month's characters:

KATIE: She looks like a "zombie" and dresses up farm animals in her bedroom for kicks. Let's see, what would the horse look like in the blue mini with the strappy heels? Just the sort of challenges young women may have to face someday.

GABBY: Interesting name for a girl who doesn't really talk. But it's hard to judge a girl who doesn't do much besides stand in the middle of a dirty playground.

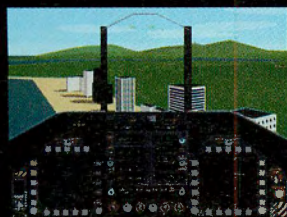
BARBIE: Tall, blond, and boring. At least as a doll, forward-thinking girls can pretend Barbie is an astronaut or a president or an editor-in-chief of a hip Macintosh magazine.

ORLY: Now here's a girl with attitude, charm, and imagination. Even at 8³/₄ years old, Orly's got more going for her than Barbie ever will. Maybe if developers quit playing with dolls and started paying attention to the goals and achievements of real women, they could create more CD-ROMs starring smart girls like Orly, who appeal to both the girls and the boys. —Nikki Echler

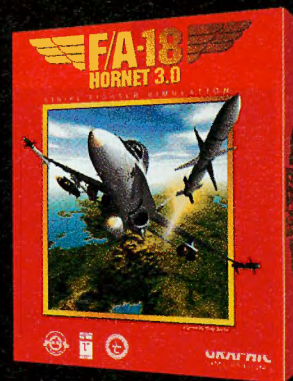
REACH OUT AND TORCH SOMEONE.



F/A-18 HORNET 3.0



The hottest combat flight simulator is about to blow you away — again. It's F/A-18 Hornet 3.0. With even more realistic instrumentation and weapon system modeling, rolling terrain, extensive wingman commands, a virtual cockpit system with target padlocking, and even a comprehensive CD-based tutorial featuring over 90 minutes of instruction with diagrams and replay footage. F/A-18 Hornet 3.0 will push you to the outer limits then bring you screaming back to earth. So pick up the award winning F/A-18 Hornet today. It's the best way to get close to someone.



CD ADULTIC
GRAPHICS
SIMULATIONS
CORPORATION
www.graphsim.com/graphsim



how to make a phone message

Record a dull message—or use your Mac to create something snappy.

Do people leave yawns on your answering machine because your OGM (outgoing message) is a crushing bore? Forget that stuff about “Leave me a message at the sound of the beep.” In this how-to, we’ll help spice up your telephone existence with a new OGM made on your Mac—and at the same time spread the word about your favorite computer with the help of Apple’s CEO, Gilbert Amelio. —*Steven Anzovin*

To create an answering machine message using the real voice of Gil Amelio, you’ll need the following tools:

- a Mac microphone
- a Web browser with the Apple QuickTime Plug-in
- Apple’s QuickTime 2.5 or MoviePlayer 2.5, or another QuickTime player
- Macromedia’s SoundEdit 16, Opcode Systems’ Audioshop, or another sound-editing program
- voice-mail software and a compatible modem, or a stand-alone answering machine.

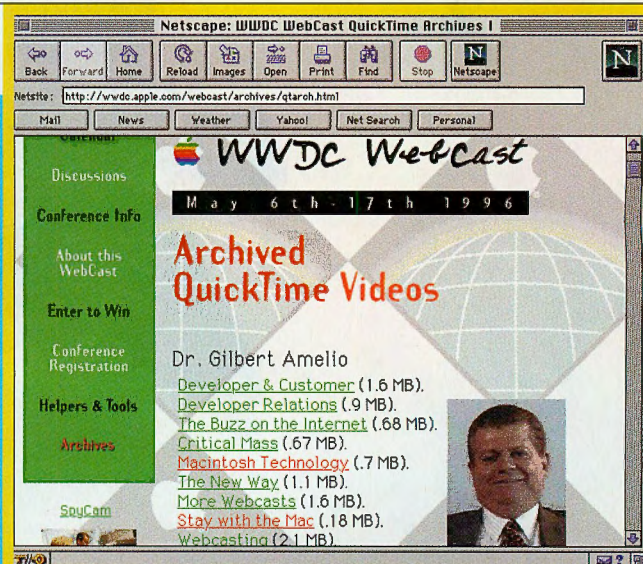


FIND THE
TOOLS you
need on
The Disc.

STEP 1 Download an Amelio Sound Sample

No, you don’t have to plant a bug, *Mission Impossible*-style, in Amelio’s Cupertino office. Apple has made your job much easier by conveniently publishing some classic Amelio remarks as QuickTime movies and RealAudio files at various places on its site (<http://www.apple.com>). We’re going to work with the soundtrack of one of the archived QuickTime movies.

1. Point your browser to <http://wwdc.apple.com/webcast/archives/qtarch.html>.
2. Download the archive file `gilstaywithmacsm.mov`. It’s a movie of Amelio saying, “Stay with the Mac—you’ll never regret it.”
3. If the page or the file is no longer available, just root around Apple’s site to find a substitute saying from Dr. Gil. The files will be .mov files.



VISIT THE WWDC WEBCAST site for a Gil Amelio movie.

STEP 2 Strip Out the Soundtrack

Most sound-editing programs will directly open the soundtrack of a QuickTime movie. If yours won’t, follow these steps:

1. Open `gilstaywithmacsm.mov` in MoviePlayer.
2. From the File menu, choose Export.
3. Export the movie as a System 7 sound—you’ll get the sound but not the corresponding QuickTime movie.

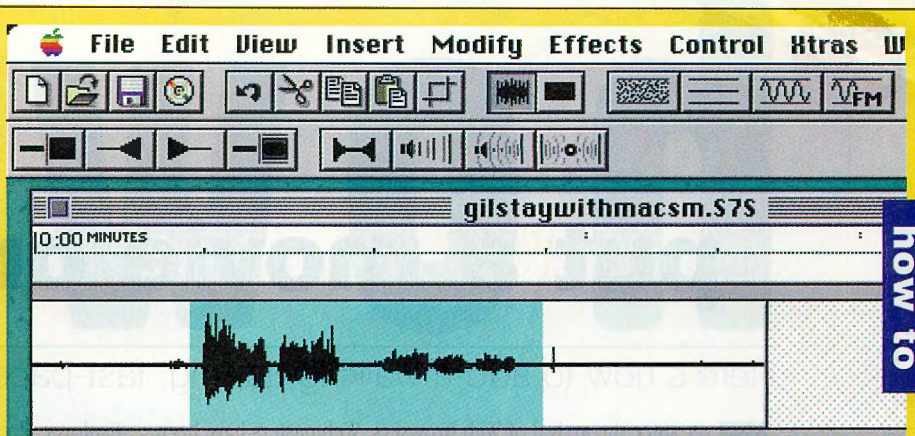


SAVE THE SOUNDTRACK of the Amelio movie as a System 7 sound.

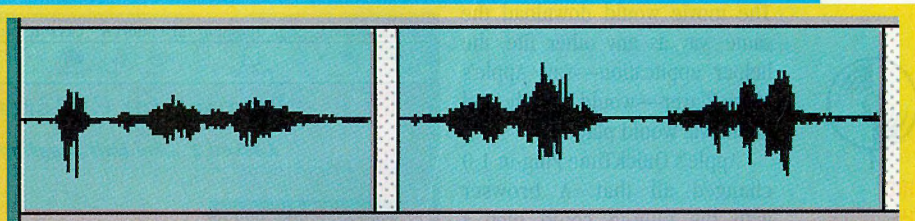
STEP 3 Customize the Sound

Now have some fun with the soundtrack. Add your own material before and after Amelio's sound bite, or in additional tracks that play at the same time as his remarks. We'll add some words recorded with the Mac's microphone.

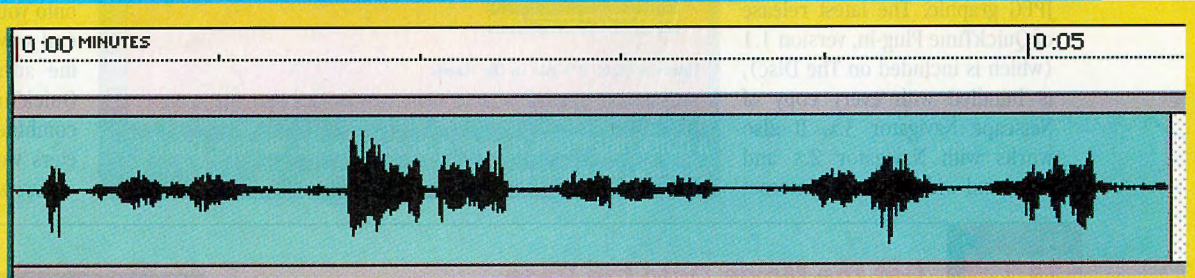
1. Open the soundtrack in SoundEdit 16 or another sound-editing program.
2. With SoundEdit, you can add as many tracks as you like. Or you can open a new document and cut and paste from there.
3. Record two additional tracks in your own voice: "Dr. Gil says..." and "If you agree, leave a message."
4. Combine the three tracks so the final greeting says, "Dr. Gil says... 'Stay with the Mac—you'll never regret it.' If you agree, leave a message."
5. If you like, you can embellish your greeting with sound effects or sampled music.



THE AMELIO SOUNDTRACK: "Stay with the Mac—you'll never regret it."



THE OTHER TRACKS: Left, "Dr. Gil says..."; right, "If you agree, leave a message."



THE THREE SOUNDTRACKS strung together.

STEP 4 Get It Into Your Answering Machine

If you have a voice-mail system and voice-capable modem already installed in your Mac, you're in business. Your voice-mail software should allow you to use the sound file you've created as your message, although you might have to convert the file to another sound format.

If you've got a typical, freestanding answering machine with no audio input jack, you'll have to record the sound file using the answering machine's microphone.

1. Cue up the sound file to play on your Mac using the Sound or Monitors & Sound control panel. You can also use SoundEdit 16, Audioshop, the shareware SoundApp or EasyAIFF, or another sound-playing program.
2. Bring the answering machine close to your Mac's speakers. Keep room noise to a minimum.

3. Set up the answering machine to record a new message.

4. Start recording the new message. At the same time, play the sound file.

5. When the sound file finishes playing, stop recording the new message.

6. Play back the message to test the results. If necessary, reposition the answering machine or your speakers to improve the recording quality, and try again.

You can use the same techniques to make any other answering machine message, even one that doesn't feature the voice of a famous corporate executive. Have fun, and change your message daily!



how to put a movie on your site

Here's how to add a walking, talking, fast-paced movie to your Web site.

Ever since the arrival of Web browsers, Webmasters have been able to place a pointer on a Web page to let visitors download QuickTime movies. As long as the visitor had set an appropriate helper application, the process was essentially foolproof.

The movie would download the same way as any other file, the helper application—say, Apple's MoviePlayer—would launch, and the movie would play.

Apple's QuickTime Plug-in 1.0 changed all that. A browser with the plug-in could play a QuickTime movie in its own window, right on the Web page, appearing much like any GIF or JPEG graphic. The latest release of QuickTime Plug-in, version 1.1 (which is included on The Disc), is bundled with every copy of Netscape Navigator 3.x. It also works with Navigator 2.x and later, and with Microsoft Internet

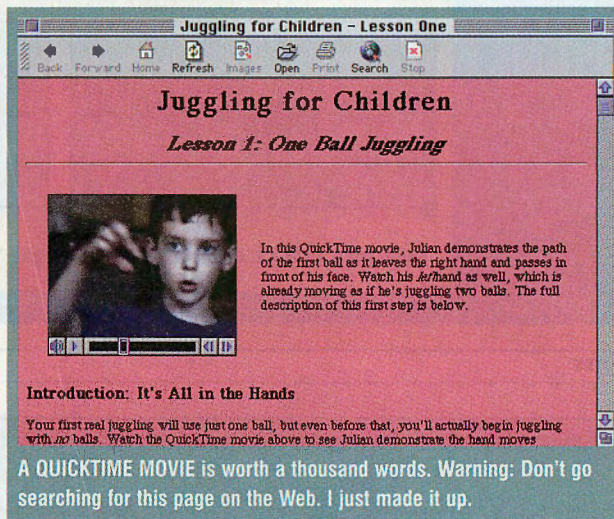
Explorer 2.x and later for the Macintosh. Explorer 3.0.x isn't bundled with the plug-in, but it has built-in ability to play embedded QuickTime movies.

Version 1.1 also adds capabilities to QuickTime on the Web.

Among other things, it allows Navigator to cache movies, it permits Fast Start (on Macs only) with nonmovie media such as AIFF sounds, and it supports MPEG playback (with the QuickTime MPEG extension). Version 1.1 also supports older browsers than does version 1.0.

Here's how to get a movie onto your page, along with several ways to take advantage of the advanced features of the QuickTime plug-in. You can combine the various parameters we cover to your liking.

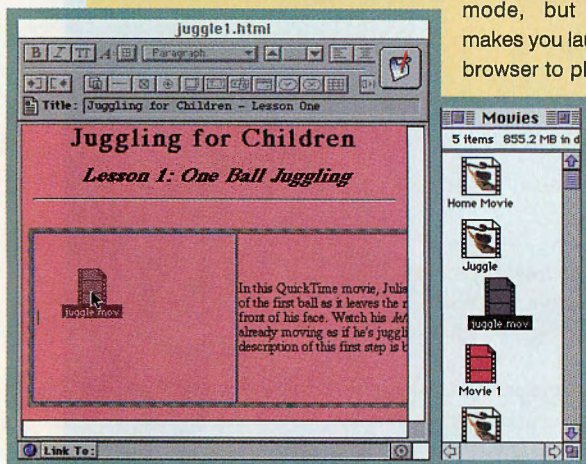
—Joseph O. Holmes



**FIND
THE TOOLS
you need
on The Disc.**

STEP 1 Get the Movie Onto the Page

Choice 1: Both Adobe PageMill 2.0 and Claris Home Page 2.0 embed QuickTime movies on the page with no muss, no fuss. Both applications let you drag a movie directly from the Finder onto the page. Be sure to title the movie appropriately first, and to drag it from the folder that matches your directory setup on your Web site. You can play the movie right in PageMill's preview mode, but Home Page makes you launch your Web browser to play the movie.



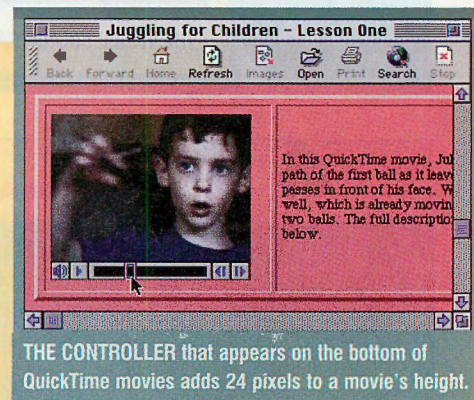
PAGEMILL 2.0 AND HOME PAGE 2.0 make it a cinch to drag a movie from the Finder right onto the page.

Choice 2: If you don't have a copy of either Adobe PageMill 2.0 or Claris Home Page 2.0, then you can use the following HTML parameters to embed your movie on your Web page:

`<EMBED SRC="juggle.mov" WIDTH=160 HEIGHT=136>`

As always, HTML isn't case sensitive. Of course, you should insert the name of your own movie within the quotation marks. The Width and Height tags are required (unless you hide your movie with the Hidden parameter—more on that later).

The dimensions must be the exact pixel size of your movie *plus* 24 pixels in height for the controller. To find your movie's exact dimensions, open MoviePlayer and choose Get Info from the Movie menu. Note that, in a silly departure from standard HTML conventions, the pixel dimensions should *not* be surrounded by quotation marks, although they seem to work with current browsers either way.



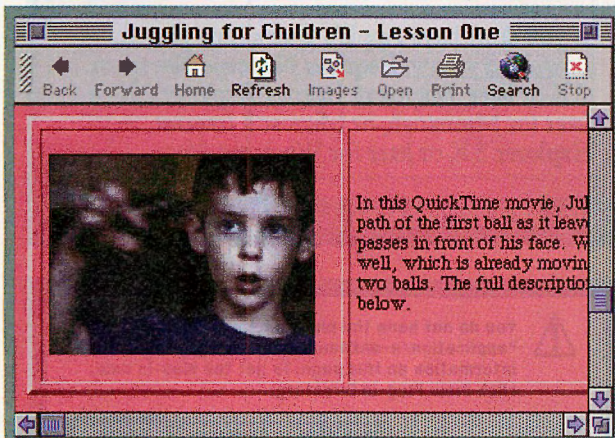
THE CONTROLLER that appears on the bottom of QuickTime movies adds 24 pixels to a movie's height.

STEP 2 Tweak the Movie in HTML

Most of the standard alignments you use with graphics can be applied to movies—you can align a movie center, right, left, top, or bottom. You can make it a clickable link with the standard HREF anchor. But movies have specific parameters you'll want to fool with.

Almost none of the special parameters can be adjusted with the WYSIWYG capabilities of Home Page or PageMill. You'll need to either open the page in your favorite HTML-tweaking word processor, such as BareBones Software's BBEdit, or use the HTML-editing modes available in Home Page and PageMill.

STEP 4 Create a Movie That Plays Automatically and Loops



IF YOUR MOVIE is set to Autoplay, you might want to hide the controller.

Here's how to make a movie that plays automatically when visitors load your page. You can set the movie to loop continuously. This is especially useful for a simple animation that plays continuously whenever the page is open:

```
<EMBED SRC="juggle.mov" WIDTH=160 HEIGHT=136  
AUTOPLAY=true CONTROLLER=false LOOP=true>
```

First, add an Autoplay tag and set it to "true." (The default—that is, the absence of this tag—is "false," and the movie won't start until your visitor starts it, using the controller.) With Autoplay, you may also want to hide the QuickTime controller. (Remember not to add 24 pixels to the Height parameter if the controller is invisible.)

Set the Controller tag to "false" to hide the controller bar. Depending on the purpose of the movie, you may want to inform your visitors that they can start and stop the movie: Mac users start a movie with a double click and stop it with a single click. Windows users click once to toggle. Remember that if you hyperlink the movie, a click will send your visitor to another location rather than start or stop the movie. Don't combine hyperlinking with a hidden controller.

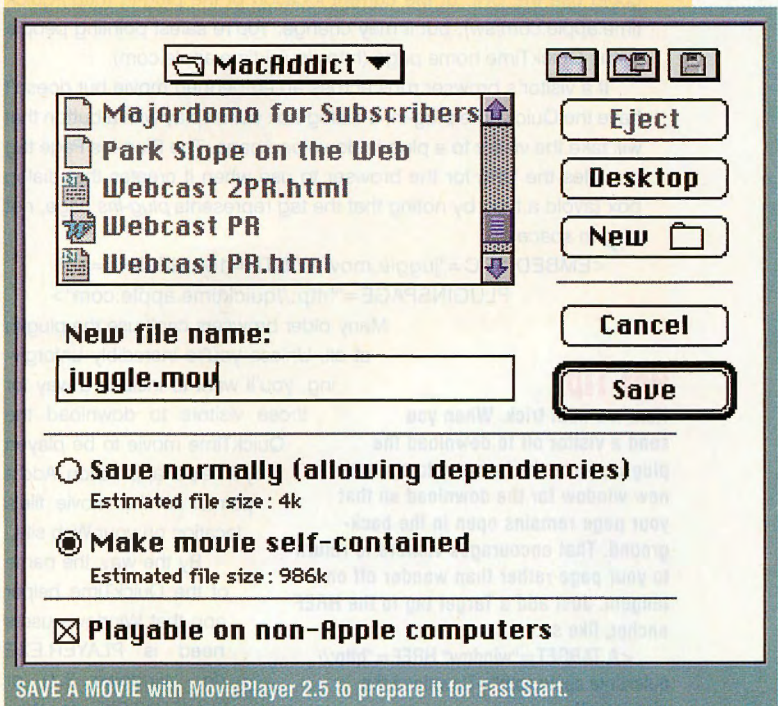
Finally, set the Loop tag to "true" to turn on continuous looping and "false" (the default) to turn it off. A third option, "palindrome," causes the movie to loop forward, then backward, over and over. Why the heck would you want that? Think of animations that rock back and forth; this tag is especially effective for creating small animated logos.

STEP 3 Create Fast Start Movies

The QuickTime plug-in allows for the fast start of a movie: Your movie will display the first frame; once a certain percentage of the entire movie has been downloaded, it will begin playing. In theory, this is loosely similar to streaming media, but in practice, it's not all that exciting. The software doesn't begin playing the movie until it calculates that it can play it all the way through, which means that with a typical 26.4Kbps connection, 97 percent of the movie must download before it begins playing.

You don't have to do much to create a movie that can take advantage of Fast Start. You need QuickTime 2.5 installed on your Mac. Use the bundled MoviePlayer 2.5 or later to create your movie (or convert it using Save As). Then be sure you save the movie as self-contained and "flattened," that is, playable on non-Apple computers. (Actually, the dialog box uses a misnomer—it should say playable on *non-Mac OS* computers).

The freeware program Internet Movie Tool also can convert a movie and offers the advantage of converting a batch of movies all at once. Don't expect any interface—the program just converts the movies and quits!



SAVE A MOVIE with MoviePlayer 2.5 to prepare it for Fast Start.

Four More Special Tags

Here's a sampling of some QuickTime tags you might want to use:

CACHE (with Navigator only) caches movies in the same way as images. On by default.

VOLUME sets sound volume. Defaults to full volume.

SCALE lets you fit a movie to a specified space without cropping.

PLAYEVERYFRAME forces the movie player not to skip frames, even if it must play more slowly.

STEP 5 Use QuickTime for Background Music

The Loop tag, combined with Autoplay and Hidden, is useful for continuous background music on your page. Although you can use the standard QuickTime audio track for music, you'll save a ton of space (and download time) if you use a MIDI track instead:

```
<EMBED SRC="background.midi" HIDDEN AUTOPLAY=true LOOP=true>
```

Import a MIDI file into a new QuickTime movie in MoviePlayer and save it as a self-contained QuickTime movie playable on non-Apple

computers. Add the Hidden tag to make the movie totally invisible. Note that the Hidden tag doesn't take a "true" or "false." Of course, you need to set the Autoplay tag to "true"—otherwise, there's no way to play the music. Finally, use the Loop parameter so the music is continuous. Note that when a movie is hidden, you don't need Controller, Height, or Width tags.

Please don't use copyrighted music without permission. Get permission, create your own, or search the Web for free MIDI tracks.

STEP 6 Take Care of Older Browsers

In addition to placing the movie and setting its parameters, you'll want to add some special information for visitors who, for one reason or another, can't see an embedded movie. This information can be added to the tag you've already created.

First, include a pointer to Apple's download site for the QuickTime plug-in for the visitors who can use the plug-in but don't yet have it. You could use the URL of the current location of the plug-in (<http://quicktime.apple.com/sw>), but it may change. You're safest pointing people to the QuickTime home page (<http://quicktime.apple.com>).

If a visitor's browser runs across an embedded movie but doesn't have the QuickTime plug-in, a dialog box will display with a button that will take the visitor to a plug-in download page. The Plug-ins Page tag provides the URL for the browser to use when it creates that dialog box (avoid a typo by noting that the tag represents *plug-ins page*, not *plug-in space*):

```
<EMBED SRC="juggle.mov" WIDTH=160 HEIGHT=136  
  PLUGINSOURCE="http://quicktime.apple.com">
```

Many older browsers can't use the plug-in at all. Unless you're incredibly unforgiving, you'll want to include a way for

those visitors to download the QuickTime movie to be played by a helper application. Add a pointer to the movie file's location on your Web site.

By the way, the name of the QuickTime helper app that Windows users need is PLAYER.EXE (for Windows 3.1) or PLAYER32.EXE (for Windows 95 and NT).

Hot Tip:

Here's a neat trick. When you send a visitor off to download the plug-in, force the browser to open a new window for the download so that your page remains open in the background. That encourages visitors to return to your page rather than wander off on a tangent. Just add a Target tag to the HREF anchor, like so:

```
<A TARGET="window" HREF="http://  
quicktime.apple.com">Download the  
plug-in!</A>
```

Warning: Instructional Videos Ahead.

If you don't have Apple's QuickTime plug-in, [download it now](#). Requires Netscape Navigator 2.X or later, Microsoft Internet Explorer 2.X or later for Macintosh, or Microsoft Internet Explorer 3.X or later for Windows 95.

DIRECT YOUR VISITORS to the plug-in download.



You do not have the plug-in needed to view the "application/x-unknown-content-type" type information on this page. To get the plug-in now, click View Plug-In Directory.

[View Plug-In Directory](#)

[Cancel](#)

USE THE PLUGINSOURCE tag to send your visitor to the download area.



If your browser can't use the QuickTime plug-in, you can [download](#) the movie and play it with a helper application like MoviePlayer.

Introduction: It's All in the Hands

CONSIDER THOSE VISITORS who don't have the truckloads of RAM needed to upgrade to a current browser.

Joseph O. Holmes, aka Professor Web, would love to hear your tips and questions on this subject or any other Webmaster topic. Address your email to professor.web@pobox.com, but please remember, he can't personally reply to every message.

Heed These Four Gotchas

1. Don't compress QuickTime audio-only movies with the MACE compression. QuickTime for Windows will die a horrible death, forcing Windows users to reboot. (Don't even think about it....) In any case, MACE 3:1 compression has been superseded by the superior IMA 4:1 compression.
2. Embedded QuickTime is extremely sensitive to small, otherwise unimportant errors in table HTML. If you place a movie in a table and find that it screeches and

has banding in the video, use an HTML-checking utility to find the faulty table code.

3. Don't allow competing streaming downloads on the same page. More than one streaming download will ruin all of them.
4. If your movie has a white gap or is clipped at the top and bottom, check to be sure that you added 24 pixels to the Height parameter for the controller or that you remembered not to add 24 pixels if you hid the controller.



**You've been ordered to interrogate
all suspicious-looking characters.
(Better make it a double.)**



A comic sci-fi adventure CD-ROM by Steve Meretzky,
where even the drinks look suspicious.

WWW.THESPACEBAR.COM



SEGA SOFT





ask us

your questions

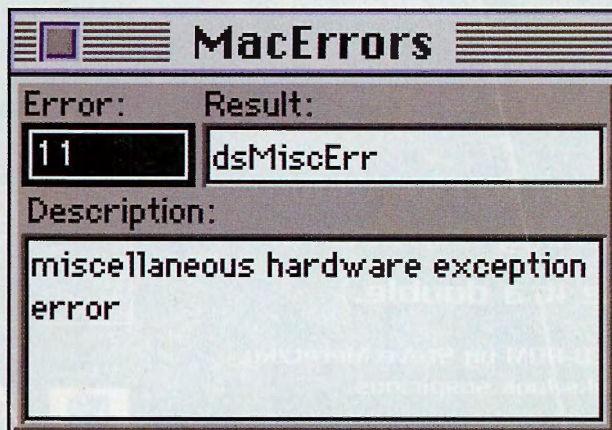
We answer all of your technical questions, no matter how simple or complex.

Q I have a Performa running System 7.5.5 that refuses to play my audio CDs (software CDs like the *MacAddict* disc work fine). My Sound control panel is set to Internal CD, yet when I insert an audio CD, the following alert box appears: "This disk is unreadable by this Macintosh. Do you want to initialize the disk?" What have I missed?

A Sounds like you're missing a few extensions. To use audio and software CDs, make sure you have all the following files in your Extensions folder: Apple CD-ROM, Apple Photo Access, Audio CD Access, Foreign File Access, High Sierra File Access, and ISO 9660 File Access. You can reinstall these files using your Mac OS CD-ROM, or you can download the latest versions from Apple's Web site at <http://support.info.apple.com/ftp/swhome.html>.

Q The Mac OS is friendly in many respects, except one: When there's a problem, the Mac presents an alert box with cryptic error types such as 10, 11, -39, -192, and so on. What do these mean? Why doesn't Apple just tell us the error instead of coding it in numeric gobbledygook?

A I don't know for sure why Apple doesn't provide verbose error descriptions instead of confusing numeric codes, but my guess is that the descriptions don't mean much to nonprogrammers. Armed with a copy of Marty Wachter's shareware program *MacErrors* or Dave Rubinic's freeware *Easy Errors*, it's simple to

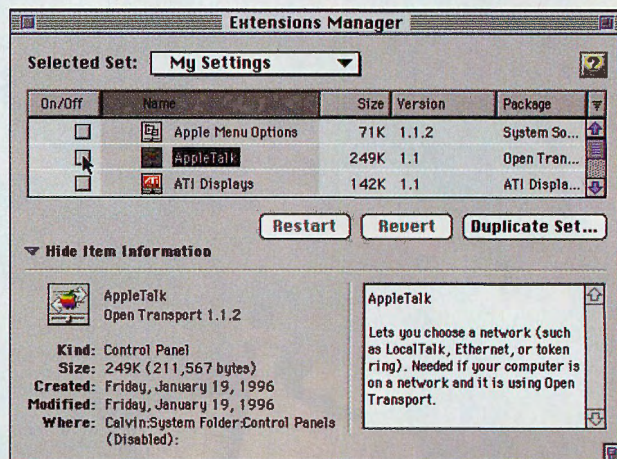


MACERRORS EXPLAINS THE MEANING of numeric error codes, but it won't tell you how to solve your Mac problems.

find out that the errors you mention indicate line 1111 trap, miscellaneous hardware exception, end of file, and resource not found errors, respectively. In some cases, the description of the error may provide programmers a clue as to what went wrong, but for most users, it rarely points to a definitive solution.

Q I just upgraded to Mac OS 7.6. Do I still need the PowerPC Interrupt Extension?

A Nope. It's incorporated into Mac OS 7.6, which I've found to be much more stable than previous releases. If you're sticking with System 7.5.5 and you don't yet have a copy of Apple's PowerPC Interrupt Extension, you should install it (find it at <http://support.info.apple.com/ftp/swhome.html>) to reduce the number of crashes.



EXTENSIONS MANAGER 4.0 REVEALS THE PURPOSE of many of the items found in the typical System Folder.

Q Can you recommend a guide to all the extensions and control panels in my System Folder?

A There's no comprehensive guide to everything you might find in your System Folder, but Extensions Manager 4.0 (part of Mac OS 7.6) has a great new feature that comes close. Highlight a control panel or extension, then click the little triangle next to the words Show Item Information. The Extensions Manager window expands to reveal detailed information about the item, including a brief description of the item's purpose, helping you determine whether it's necessary.

If you don't want to upgrade to Mac OS 7.6 to get Extensions



FIND THE
SHAREWARE
mentioned
on The Disc.

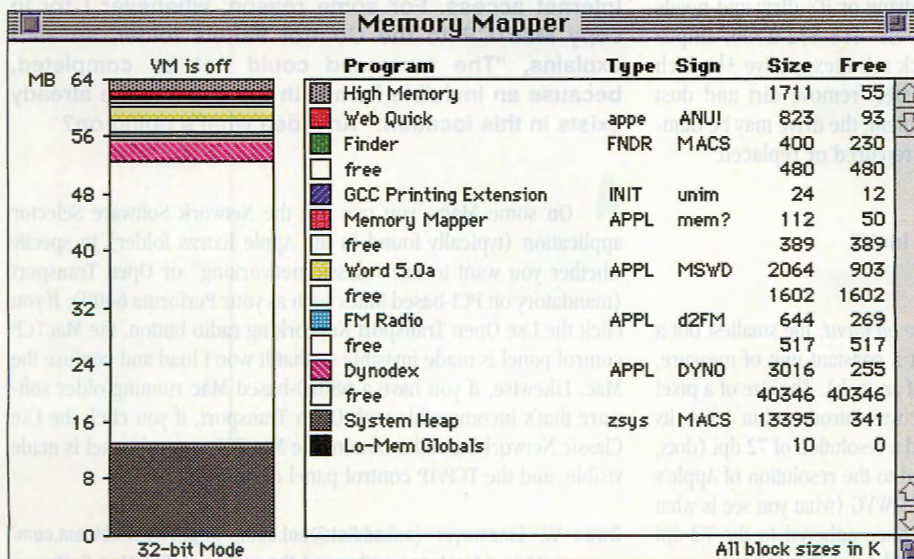
Manager 4.0, check out the shareware program Extension Overload from Teng Chou Ming and Tan Heng Chon. It doesn't allow you to turn on or disable the contents of your System Folder, the way Extensions Manager does, but it contains useful descriptions of more than 270 of the most common commercial, freeware, and shareware extensions.

Q Is there a way to open Extensions Manager before loading all other extensions so I can choose the set that I want to work with?

A Extensions Manager, which Apple made part of the Mac OS with System 7.5, is a good tool for turning extensions and control panels on and off without forcing you to manually remove the files from their respective folders. By creating sets that you load only for particular tasks—such as QuickTime and a joystick control panel for gaming—you can reduce startup times and Mac OS memory requirements. To open Extensions Manager during startup, hold down the spacebar until it appears, then switch sets using the pop-up menu. In addition to other useful features, commercial variations on Extensions Manager—such as Conflict Catcher from Casady & Greene (800-359-4920 or 408-484-9228, <http://www.casadyg.com>) and Now Startup Manager from Now Software (800-730-7854 or 503/274-2800, <http://www.nowsoft.com>)—allow you to assign keys that automatically switch sets without opening the utilities at startup.

Q Sometimes when I choose Shut Down from the Finder's Special menu, the Mac responds with an alert box that says something like "Can't shut down because an unknown application is still running." Yet, when I check the Applications menu, there's nothing running except the Finder. What keeps me from shutting down?

A It's probably a misbehaving background application that doesn't appear in the Applications menu. To find out what's running on your Mac and how much memory each program uses, launch Robert Fronabarger's freeware utility Memory Mapper. My guess is the prob-



USE MEMORY MAPPER TO SEE WHAT'S RUNNING, even if it's an invisible background application such as Microsoft Office Manager.

Awww...

How Cute

Make this wonderful little wizard appear in Adobe Photoshop 4.0. From the Window menu, choose Show Layers to open the Layers palette (below, center). Then click on the arrow in the palette to get a pop-up menu. Option-click on the Palette Options choice. Voilà! Thanks to Steve Macomber of Bullhead City, Arizona, for the tip.



lem is with the Microsoft Office Manager control panel. Either disable it or install the Office 4.2x Update for PPC extension (on The Disc or at <http://www.microsoft.com/kb/softlib/mslfiles/MC1164.HQX>), which solves this problem and fixes a bug that causes crashes.

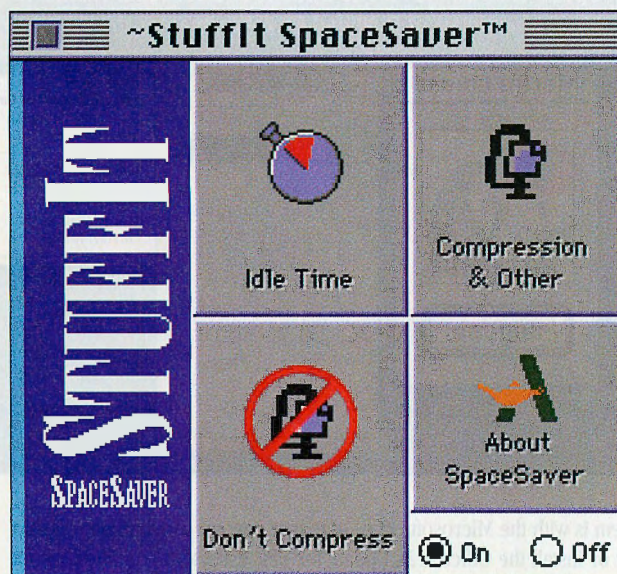
Q I have an Iomega Zip drive connected to my Performa 550. Can I connect the Zip to my Mac SE so that both computers can use the drive simultaneously?

A You risk damaging the drive, its data, and your computers if you connect both Macs to the Zip drive at the same time. The SCSI bus on the back of all Macs allows you to daisy-chain (plug one device into another) many different peripherals to a single computer, but with the exception of using a PowerBook in SCSI Disk Mode, you can't have two computers on the same SCSI bus. You can, however, connect the Zip drive to the Mac SE when it's not in use on the Performa 550. Be sure to turn off the computer and all peripherals whenever switching SCSI devices. Additionally, you can connect the two Macs with a serial cable running between their printer ports and share the information on the Zip cartridges by enabling File Sharing.

Q I have a Quadra 700, and I have only 30MB of hard disk space left. Is there any easy way of getting more space without getting a second hard drive?

ask us

A There's probably a lot of wasted hard disk space taken up by preference files for applications you no longer use, control panels and extensions you never need, old documents, and so on, which you can delete to free up space. Also, you can use SpaceSaver, a part of Stuffit Deluxe from Aladdin Systems (800-480-4011 or 408-761-6200, <http://www.aladdinsys.com>), to automatically compress old files on your hard drive and expand them if ever needed.



SPACESAVER AUTOMATICALLY COMPRESSES old, rarely used files to free up hard disk space.

Q I own a Power Mac 7200. Recently, I have been experiencing a problem accessing disks from my floppy drive. All Mac disks appear as unformatted disks when inserted, and PC disks appear on the desktop after some time. Even so, the files appear with incorrect names and contain only junk. Please help!

A Sounds like either your drive is dying or it's dirty and needs cleaning. Kensington (800-535-4242 or 415-572-2700, <http://www.kensington.com>) and Radio Shack sell inexpensive 3½-inch floppy drive cleaning kits that help safely remove dirt and dust build-up. If that doesn't solve your problem, the drive may be damaged or defective and may need to be repaired or replaced.

Q How many pixels equals an inch?

A The word *pixel* is short for *picture element*, the smallest dot a monitor can display. As a result, it's not a constant unit of measure, such as the typesetter's pica (one-sixth of an inch). The size of a pixel depends on the monitor. When the Mac was introduced in 1984, its built-in 9-inch monochrome monitor had a resolution of 72 dpi (dots, or pixels, per inch), which corresponded to the resolution of Apple's ImageWriter printer, resulting in true WYSIWYG (what you see is what you get) for hard copy. Manufacturers once adhered to the 72-dpi standard, but nowadays resolutions vary widely—yet they can be computed easily. Use the Monitors control panel to see how many pixels are displayed horizontally and vertically. Then measure the visible area of

the screen with a ruler; divide the pixels by inches. For example, my 13-inch diagonal monitor displays 640 x 480 pixels on a visible area of 9.25 x 7 inches, yielding an average of 69 pixels per inch.

Q How do I keep programs in my Startup Items folder from launching?

A The Startup Items folder is where you keep files that you want to open automatically when you turn on or restart the Mac. It's real handy if you always check email or open your word processor upon turning on the Mac, for example. Anything that you can normally double-click in the Finder can be placed in the Startup Items folder: programs, documents, aliases, folders, sound files... anything.

Applications in the Startup Items folder launch first, then documents, and finally aliases, each in alphabetical order. To permanently prevent these items from launching, simply move them out of the Startup Items folder. For temporary relief, wait until all the extensions have loaded, then press Shift when the empty menu bar appears. You can let go once the menu names appear. Don't begin pressing Shift before the menu bar is visible, because some extensions take this as an indication that you don't want them to load. Likewise, if you press Shift immediately at startup, all extensions are disabled, and none of the files in the Startup Items folder will launch.

You didn't ask, but you might be interested in the Shutdown Items folder as well. Introduced in System 7.5, it is the opposite of Startup Items: Anything in this folder is launched when you choose Shut Down or Restart from the Finder's Special menu (or if you choose •Shut Down from the Apple menu). The Mac issues quit commands to all running programs, giving you the chance to save changes to open documents. For fun, try putting a double-clickable sound file in the Shutdown Items folder, or better yet, put in an alias of your daily backup script (this must be set to automatically begin upon launching, or your backup utility will quit right after opening). Unfortunately, there doesn't appear to be any way to temporarily disable the Shutdown Items folder.

Q I have a Performa 6400 that I am setting up for Internet access. For some reason, whenever I try to copy MacTCP to the Control Panels folder, an alert explains, "The command could not be completed, because an invisible item with the same name already exists in this location." Any idea what's going on?

A On some Macs, you can use the Network Software Selector application (typically found in the Apple Extras folder) to specify whether you want to use "classic networking" or Open Transport (mandatory on PCI-based Macs such as your Performa 6400). If you click the Use Open Transport Networking radio button, the MacTCP control panel is made invisible so that it won't load and confuse the Mac. Likewise, if you have a 680x0-based Mac running older software that's incompatible with Open Transport, if you click the Use Classic Networking radio button, the MacTCP control panel is made visible, and the TCP/IP control panel disappears.

Owen W. Linzmayer (askaddict@aol.com, <http://www.netcom.com/~owenink>) is a freelance writer and the author of *The Mac Bathroom Reader*. Please send technical questions or helpful tips directly via email or c/o MacAddict, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.

Introducing...

the MacAddict Collection

No self-respecting Mac addict should be without these essentials. These items are so cool that even your misguided PC friends will want to wear them. In fact, why not buy one for them as a gift?

MacAddict T-shirt

"It's not for everyone"

- short sleeve \$12
- long sleeve \$17

M, L, XL
(100% cotton)



FRONT



BACK

MacAddict Cap

(one size fits all) \$17

soft crown,
brushed cotton with
embroidered logo,
adjustable Velcro
backing



FRONT



BACK

Order Form

T-shirt, short: \$12 x Qty _____ = \$ _____
T-shirt, long: \$17 x Qty _____ = \$ _____
Cap: \$17 x Qty _____ = \$ _____

Subtotal

California residents please add 8.5% sales tax _____

Postage and handling—United States **\$5.00**

Postage and handling—Canada **\$7.50**

Postage and handling—International **\$15.00**

Total \$ _____

Credit Card Information

Amex _____ Visa _____ Mastercard _____

Card Number _____ Exp Date _____

Signature _____

Name _____

Address _____

City, State, Zip _____

Phone/E-mail _____

Orders must include payment. Products subject to availability and may change without notice. Please allow 4-6 weeks for delivery. All checks must be in U.S. dollars and drawn on a U.S. bank. MacAddict is not responsible for any duties or taxes imposed by countries other than the US during the delivery of international orders.

Please list other items you would like us to carry _____

To order...

call toll-free:
1-888-468-1300
9am-5pm PST
Fax: 1-415-865-0263

or send check or money order to:
MacAddict
c/o Intaglio Productions
1616 York Street
San Francisco, CA 94110



powerplay

games

MESA aims to put the Midas touch back in Mac game publishing.

Teasers



Lighthouse

COMPANY: Sierra On-Line

CONTACT: 800-757-7707,

<http://www.sierra.com>

In this fantasy/mystery, you must rescue your

friend and his baby from the evil forces on the other side of a mysterious portal. A good deal of the challenge comes from simply acclimatizing yourself to the other realm—you'll need to figure out how to operate alien vehicles. At least it's not a princess you're rescuing.



Mission to Nexus Prime

COMPANY: DigiFX Interactive

CONTACT: <http://www.digifx.net>

Mission to Nexus Prime is a real-time

strategy game à la Blizzard Entertainment's Warcraft or Westwood Studios' Command & Conquer, but its unique twist is a storyline written by sci-fi author Timothy Zahn. The landscape is active, too, so volcanoes and earthquakes can be as challenging as the enemy itself. At press time, DigiFX did not have a U.S. distributor; please check its Web site for the latest contact information.



SimPark

COMPANY: Maxis

CONTACT: 800-526-2947,

<http://www.maxis.com>

The latest in Maxis' popular Sim line lets

kids manage their own wilderness park. By adding picnic tables and trails, they can attract higher primates to their preserve, too. We bet kids aren't the only ones who try their hand at the birds and the bees.

Times are tough if you're a Mac game publisher. According to the Software Publishers Association (SPA), Macintosh entertainment sales, which includes games and CD-ROMs, fell more than 50 percent from 1995 to 1996. (We'll look more closely at that number in a moment, but accept it as valid for now.) This drop-off might have occurred because Apple sold 90,000 fewer Performas during the Christmas season than expected, which cut the potential market for Mac game publishers. Or it could be the result of a terrible trend at stores that sell software.

Retailers, armed with data from sources such as the SPA, point to dwindling Macintosh market share and associated software sales and are pulling the Mac-only sections out of their stores. In some cases, they'll keep the top 10 Mac entertainment titles, and software priced at less than \$20, but that's it. Faced with so few software titles apparently available, it's no wonder that new computer buyers aren't buying Macs or entertainment software from computer superstores.

That's not so bad, you might say, because most Mac sales happen through mail order anyway. That might be true for programs such as Adobe Photoshop, but for companies that sell software for less than \$50, it's nearly impossible to make money the way catalogs offer deals. (For a more detailed look at the specifics of selling Mac games, see Bungie Software Products CEO Alexander Seropian's soapbox at <http://www.bungie.com/soapbox/soapbox896.html>.) And if you don't yet have a Mac, you probably don't know about the mail-order companies.

Mac publishers could just throw in the towel and abandon the market. But that wouldn't be the Macintosh way. Instead of fighting each other for every last scrap of Mac entertainment dollar, nine game developers—Blizzard Entertainment, Bungie, Changeling, Graphic Simulations, LucasArts Entertainment,

MacPlay, MacSoft, Parsoft Interactive, and StarPlay Productions—have banded together to form the Mac OS Entertainment Software Association (MESA). With MESA, these publishers hope to create new ways to sell their games and improve relationships with existing resellers. To get the lowdown on MESA, we talked to Changeling's president, Jeanine DeSocio.

MA: How has the overall software market affected Mac sales?

JD: For the last two years, everyone was producing and publishing so-called multimedia titles, and a lot of it was garbage—people had to wade through it to find something decent. You're now seeing the market shaking out. After the whole buzz about buying multimedia, people are a little more hesitant. Consumers aren't buying as freely as they were. You can see it with stores—I think Computer City just shut down 100 locations. Borders is also removing the software sections from some of its stores. It was too much, too soon. Now you're seeing people pull back, and that's reflecting on the Mac market. When traditionally [Mac software sales] have been maybe only 7 percent of their sales, superstores aren't even concerned about the Mac being a section of their stores, especially when they're having problems overall.

MA: Is it hard for publishers to get a Mac game into a superstore?

JD: CompUSA will not pick up our product Amber for Mac because they don't "believe" in the Mac at all. They are picking up Hornet 3 for Mac because Hornet 2 was one of their best-sellers. Even though Amber will be going through GraphSim, they don't believe in new products that they know nothing about, especially for the Mac. It's a self-fulfilling prophecy—if a store stocks only one or two products that do really well, no one goes in the



Jeanine DeSocio

Not to be in retail is awful.

Comparing Apples and Oranges

As part of its job as an advocacy group for software publishers, the Software Publishers Association (SPA) performs market research on items such as annual software sales. Its sales data consist of self-reported figures from its members. In March each year, the SPA releases software sales figures from

North America Overall Software Sales (in millions)

Year	DOS	Windows	Mac	Mac share
1994 revised	\$1,132.5	\$4,441.2	\$1,225.1	18%
1995 estimated	\$717.4	\$5,654.3	\$1,054.7	14%
1995 revised	\$1,014.2	\$7,333.4	\$1,520.8	16%
1996 estimated	\$558.2	\$8,527.1	\$1,170.8	11%

the previous year. This sounds innocuous enough, but a real problem occurs when the SPA compares numbers from the previous year to illustrate trends. Members send in more figures as the year goes on, correcting the original figures, and these corrected figures are compared with the current year's initial figures.

For instance, when the SPA released its 1995 figures, it said, "Macintosh applications were down 13.9 percent," and "Macintosh application sales continued their slide." It is true that the initial estimated figures show a drop from 18 to 14 percent market share, but when you compare the final 1994 figures with the final 1995 figures, Macintosh application sales make up 16 percent of the market and actually represent a growth of 24 percent in sales from the previous year. The Windows market is growing faster than the Mac market overall, but Mac software sales are still expanding, not shrinking, as the SPA would lead you to believe.

Again, when it released 1996 figures, the SPA said, "Macintosh applications were down 23 percent for the year as a whole." But that's only because the SPA was comparing estimated 1996 figures with real 1995 figures. As an advocacy group, the SPA is doing its Macintosh members a disservice by comparing Apples and oranges.

Reason for Concern

Even more troubling than the overall software sales are figures for entertainment titles. According to the Software Publishers Association, in 1994, one in five games were Mac games, but in 1996, that number shrunk to about one in 20. These numbers will probably be revised upwards,

North America Entertainment Software Sales (in millions)

Year	DOS	Windows	Mac	Mac share
1994 revised	\$182.1	\$190.6	\$82.0	18%
1995 estimated	\$288.0	\$274.2	\$86.9	13%
1995 revised	\$403.5	\$317.4	\$105.3	13%
1996 estimated	\$303.4	\$512.9	\$45.5	5%

but this is an alarming trend. If retailers don't "believe" in the Mac anymore and are giving shelf space to only known winners and titles less than \$20, it's no wonder we've heard mutterings that there may not be a Mac entertainment market next year. We can only hope that MESA fixes these problems.

SOURCE: Software Publishers Association (<http://www.spa.org>). For a more detailed critique of the SPA's reporting techniques, see <http://www.gcsf.com/mdj-recap.html>.

store to buy Mac products, because they're not getting the latest and greatest stuff. We've been discussing it for months—if they'd picked Amber up in November, we may have proved to them that it was going to do really well during a good season, and they were just considering it in March. Even if they did pick it up, there's your self-fulfilling prophecy—pick it up in March or April in the slow season in general, and then it won't sell through.

MA: How will MESA help overcome these problems?

JD: MESA is being organized to get over the problems in the retail market by fixing retail right now and creating new channels for sales, just because the current situation is so disconcerting. We want to put together our own catalog—not necessarily something to compete with MacWarehouse and Zone, but something to tie into different magazines, such as your own—and also a demo disc that ties into a commercial Web site.

MA: How are you going to fix the current problems with catalogs?

JD: Some members are talking to the catalog companies to stimulate games sales. We don't make much of a profit off catalog sales. We need to have different programs and make it a little more profitable—the ads are quite expensive, and they're so tiny. We've seen a decrease in sales in the catalogs as well over the last two years.

MA: Why is retail so crucial?

JD: Everybody says that Mac sales are in the catalogs. That's really not true. You can't just be in the catalogs and profit and stay in business. Not to be in retail is awful. We will combine forces to present retailers with a bunch of upcoming titles and do mass mailings in certain markets of the top 10 to 15 products coming out, so we can influence people to go into the stores where we can establish Mac-only areas. We will tell resellers these are the products coming out, we'll advertise in your market, we'll do special deals such as "buy two, get one free"—anything to get a Mac-only section in these stores. If the Mac sections are totally taken out of the stores, a lot of us will lose channels because we don't have hybrid games.

—Kathy Tafel

more Teasers

The Arrival

COMPANY: Live Entertainment
CONTACT: 800-760-6667, <http://www.liveentertainment.com>



Although Charlie Sheen didn't save the world with a PowerBook, this game based on a movie is for Macs, too, not just Windows. Save Earth before it gets terraformed. (Take that, Independence Day!)

Duke Nukem 3D

COMPANY: MacSoft
CONTACT: 800-229-2714, <http://www.wizworks.com/macsoft>

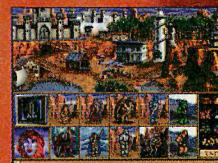
Duke Nukem 3D is sure to please. Another Doom-like game, the object is to shoot everything that moves. (Duh.)



Heroes of Might and Magic II

COMPANY: New World Computing
CONTACT: 800-985-7449, <http://www.nwcomputing.com>

Heroes of Might and Magic II is a significant improvement over the original. It has better art, better artificial intelligence, and two new character classes. You now can use the same hero across multiple scenarios, improving the skill sets over time. We just hope that this version has fewer bugs than the original.



ADVERTISER INDEX

ADVERTISER	PAGE NO.	PHONE NO.	WEB ADDRESS
Access Software	35	800-800-4880	www.accesssoftware.com
Adrenaline Software	19	418-658-9909	www.adrenaline.ca
Apple Computer, Inc.	IFC-1, 10-11, 15	800-500-4862 #100	www.apple.com
APS Technologies	6	800-874-1341	www.apstch.com/
ARS Nova	111	—	www.ars-nova.com
Bandai Digital Entertainment	73	888-992-9000	www.atworld.net
Bungie Software	OBC	800-295-0600	www.bungie.com
Claris (Apple software)	2, 22-23	800-482-6376 #1421	www.apple.com
ClubMac	101	800-CLUBMAC	www.club-mac.com
Coast to Coast Memory	111	800-4MEMORY	http://18004memory.com
COMPU AGE	105	800-799-4MAC	www.compu-age.com
Compu America	103	800-533-9005	compu-america.com
Compu.D	106	800-929-9333	www.compu-d.com
CRA Systems	59	800-375-9000	http://www.cra-sys.com
Digital Harbor	21	800-759-2204	www.dharbor.com
DriveSavers	110	800-440-1904	www.drivesavers.com
Earthlink	25	800-395-8425	www.earthlink.net
Educorp	107	800-843-9497	www.educorp.com
Europa Software	69	800-387-8373	www.europasoftware.com
Graphic Simulations	83	214-386-7575	www.graphsim.com
Infinity Micro	108	800-589-1234	www.infinity-micro.com
LA Computer Center	100	800-689-3933	www.lacc.com
LaCie Limited	IBC	800-999-1594	www.lacie.com/~lacie
Leister Productions	111	717-697-1378	www.leisterpro.com
Mac Net	102	800-404-9976	www.applemacnet.com
MacBase	108	800-951-1230	www.macbase.com
MacResq	110	888-447-3728	http://www.macresq.com
MacSoft (a GT Interactive Company)	31	800-229-2714	www.wizworks.com/macsoft
Media Store	109	800-555-5551	www.mediastore.com
MHA Event Management	34	800-645-EXPO	www.mha.com/macworldexpo
Micro Outlet	98	800-801-4622	www.microoutlet.com
MicroMac Technology	104	800-600-6227	www.micromac.com
Microtek	29	800-654-4160	www.microtekusa.com
NewSoft, Inc.	5, 9	888-729-1017	www.tophat.com
Other World Computing	99	800-275-4576	www.macsales.com
Sand Hill Engineering, Inc.	75	407-349-5960	www.shed.com
SegaSoft	77, 89	888-SEGASOFT	www.thespacebar.com
Sonnet Technologies	53	800-786-6260	www.sonnettech.com
Sophisticated Circuits	67	800-769-3773	www.sophisticated.com
Source Computing	111	800-900-4599	www.sourcecomp.com
United Computer Exchange	108	800-755-3033	www.ucx.com



WE'RE COMMITTED TO SERVING YOU...

Start at Our Web Site

MacAddict's Web site at www.macaddict.com is the best place to get help. That's where you'll find the latest information about the Web sites, hardware, software, and other topics in MacAddict. You'll also find helpful tips for using your MacAddict CD-ROM, along with direct e-mail links for immediate access to all of the services mentioned on this page. From our Web site, you can send e-mail to our editors and get the latest MacNews. You'll find a wealth of tools and special features not available anywhere else.



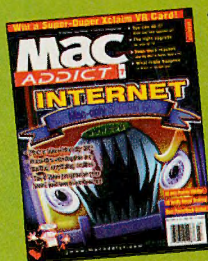
Macaddict.CD-ROM

If you subscribe to MacAddict's CD-ROM edition and either didn't receive a disc or received a defective disc, please contact us via our Web site at <http://support.imagine-inc.com>. You can also write, call, or fax to the addresses or phone numbers listed. Please note that we are unable to provide technical support for the software and demos included on the disc; contact the software publisher directly with questions about its software. You'll find links to many of these software publishers at our Web site at www.macaddict.com; you'll also find their phone numbers on The Disc.



Subscriptions

To subscribe to MacAddict (for yourself, or as a gift), visit our Web site at www.macaddict.com. For questions about an existing subscription, contact us through our Web site at www.macaddict.com. You can also e-mail us at subscribe@macaddict.com or write to us at MacAddict, Attention: Customer Service Department, 150 North Hill Drive, Suite 40, Brisbane, CA 94005; or call us at 1-800-666-6889. Please include your subscription number or a copy of your mailing label in all correspondence to help us serve you better. Allow six weeks for any changes in your subscription record. Subscribers should receive their monthly issue of MacAddict in the mail by the first day of the issue month; please contact us at the above addresses for a replacement copy if you do not receive your issue by that date. Back issues of MacAddict are available for \$8.99 within the United States, including postage. (Sold out of back issues 1-4.) For foreign orders, send \$12.00 in U.S. funds, which includes airmail postage. Send orders for back issues to Back Issues/MacAddict, Customer Service Department, 150 North Hill Drive, Suite 40, Brisbane, CA 94005.



Rental of subscriber names

MacAddict occasionally rents its subscriber list to other companies that offer products we think may be of interest to our readers. If you would like your name removed from this list, please contact us through our Web site at www.macaddict.com, or the addresses shown above for subscription inquiries.



**Mac
ADDICT**
A better machine. A better magazine.

customer service

Max's Guide to Buying Mail Order

You're at home, you're a Mac fanatic, so of course you're reading your favorite magazine, *MacAddict*. Your friends insist you should go out more and get a life, but you would rather sit in your comfy armchair and read about the newest and coolest Mac products.



As you're reading, you get an idea (you know that you have an idea because there is a lightbulb above your head). You decide that it's time to buy a new monitor. *MacAddict* has a great selection of mail-order ads, so you decide to browse the mail-order section to find the best price. You let your fingers do the walking and you're ready to place an order.

Now here's the tricky part. Are you paying attention? You pick up the phone, dial the 800 number in the ad, place your order, and you mention *MacAddict*.

That's right, make sure that you mention *MacAddict* whenever you buy mail order. Why? Because Max said to, that's why. After all, it is Max's guide to buying mail order and he gets to make the rules.



Now you've gotten a great deal, done your shopping the easy way, and now you can take some time off and hit the beach!

MICRO OUTLET

Free Utilities
CD's With
Every CPU
Order!

800 • 801 • 4MAC
FAX • 310 • 533 • 0501

9600/200MHz



- 32MB RAM
- 4GB HD
- 12X CD

Apple PowerPC

Monitor sold separately

\$3295

8600/200MHz



- 32MB RAM
- 2GB HD
- 12X CD

Apple PowerPC

Monitor sold separately

\$2995

StarMax 4000/200MHz



- 32MB RAM
- 2GB HD
- 8X CD

MOTOROLA

\$2295

Umax S900/250MHz



- 32MB RAM
- 2GB HD
- 8X CD

UMAX®

\$4499

PB 3400C/240MHz



- 16MB RAM
- 3GB HD
- 12X CD

Apple PowerPC

\$5849

PB 1400C/133MHz



- 16MB RAM
- 1GB HD
- 6X CD

Apple PowerPC

\$3149

Apple Multiscan 1710



\$699

Newer Technology



- MaxPower
- 604E Processor
- 225 MHz Card

\$1099

PowerMacs

9600/200	32/4GB/8XCD/L2	\$ 3295
9600/200	MP 32/4GB/8XCD/L2	4495
9500/180	MP 32/2GB/8XCD/L2	2895
8600/200	32/2GB/12XCD/L2/ZIP	2995
7300/200	32/2GB/12XCD/L2	2399
7300/180	16/2GB/12XCD/L2	1999
7200/120	16/1.2GB/8XCD/L2	1199
6500/250	48/4GB/12XCD/ZIP/33.6	2560
6500/250	32/4GB/12XCD/ZIP/33.6	2360
6500/225	32/3GB/12XCD/33.6	2100
4400/200	16/2GB/8XCD/L2	1495

Motorola StarMax

3000/180 DT	16MB/1.2GB/8XCD/L2	\$1259
3000/180 MT	32MB/2.5GB/8XCD/L2	1405
3000/200 DT	16MB/1.2GB/8XCD/L2	1479
3000/200 MT	32MB/2.5GB/8XCD/L2	1675
3000/240 MT	32MB/2.5GB/8XCD/L2	2139
4000/160 DT	16MB/1.2GB/8XCD/L2	1499
4000/160 MT	32MB/2.5GB/8XCD/L2	1699
4000/200 DT	16MB/1.2GB/8XCD/L2	1999
4000/200 MT	32MB/2.5GB/8XCD/L2	2295

UMAX Supermac

C600/180	16/1.2GB/8XCD/KEY/28.8	\$ 1379
C600/200	16/1.2GB/8XCD/KEY/28.8	1579
C600/240	16/1.2GB/8XCD/KEY/28.8	1849
J700/150	16/2GB/6.7CD/KEY/VCard	2025
J700/180	24/2GB/6.7CD/KEY/VCard	2299
S900/250	32/2GB/6.0CD/KEY/VCard	4499
S900/240	32/2GB/6.0CD/KEY/VCard	4599
S900/225	32/2GB/6.0CD/KEY/VCard	3349
S900/200	Dual Processor Model	3895
S900/200	32/2GB/6.0CD/KEY/VCard	2895
S900/180	Dual Processor Model	3375
S900/180	32/2GB/6.0CD/KEY/VCard	2749

Performas

6400/180	16/1.6GB/8CD/Kbd/28.8	\$1349
6400/180	16/1.6GB/8CD/Kbd/28.8/15" Multi.	1675
6400/180	16/1.6GB/8CD/Kbd/28.8/15" AV	1595
6400/180	Base Config./15" AV/1500 Printer	1759
6400/180	Base Config./15" AV/2500 Printer	1895
6400/200	16/2.4GB/8XCD/Kbd/28.8	1525
6400/200	16/2.4GB/8XCD/Kbd/28.8/Vid	1995

PowerBooks

1400C/133	16/1GB/6XCD	\$ 3149
1400C/117	16/1GB/6XCD	2895
1400CS	16/750MB/6XCD	2179
1400CS	12/750MB	1899
3400C/240	16/2GB/12XCD/Floppy	5849
3400C/200	16/2GB/6XCD/Floppy	4725
3400C/180	16/1.3GB/6XCD/Floppy	4349

Net Work Servers

500/132	32/2GB/CD/Dat/Unix	\$ 8269
700/150	32/1GB/CD/UNIX	7699
700/150	48/4GB/CD/Dat/Unix	9695

Workgroup Servers

7250/120	16/2GB/CD/AS	\$ 2469
8550/200	32/2GB/CD/Dat	4299
8550/132	24/2GB/CD/AS	4249
8550/200	32/2GB/CD/Datt/AS	4949

CD Rom Recorders

Ricoh	4xRd x2wrt CDR w/Toast	\$ 450
Yamaha	400 CDR 6x4 Int. w/Toast	799
Yamaha	400 CDR 6x4 Ext. w/Toast	- 899

Dos Cards

Apple	586 100MHZ	\$ 675
Apple	Pentium 100MHZ	999

Keyboards

Apple	Design Extended Key.	\$ 75
Apple	Extended Keyboard II	149
Radius	Extended Keyboard	49

Magneto-Optical Drive

Fujitsu	640mb w/1 Media Internal	\$ 479
Fujitsu	640mb w/1 Media External	589
VST	EXPASION BAY 230MB (PB 190/5300)	375
VST	EXPASION HD 640MB (PB 190/5300)	389
Pinnacle	Vertex 2.6 Gig Optical	1399
Pinnacle	Apex 4.6 Gig Optical	1499
OLYMPUS	SYS 230MB External	389
OLYMPUS	POWERMO 2.6GB External	1599

Modem

Farallon	Netopia (ISDN)	\$ 295
Glob. VIII.	Teleport 33.6	119
Glob. VIII.	PowerPort PC Card	263
Supra	Express Mod. 56E V.34	169
Supra	Express Mod. 56E SP	179

Monitors

Apple	Multiscan 15"	\$ 375
Apple	Multiscan 15" AV	399
Apple	Multiscan 1705	599
Apple	Multiscan 1710	699
Apple	Multiscan 1710AV	799
Apple	Multiscan 20"	1499
Hitachi	All New Models	Call
Iiyama	All New Models	Call
Iiyama	All New Models	Call
Mitsubishi	All New Models	Call
NEC	All New Models	Call
Radius	All New Models	Call
Sony	All New Models	Call
Viewsonic	All New Models	Call

Printers

Apple	Stylewriter 1500	\$ 199
Apple	Stylewriter 2500	329
Apple	LaserWriter 4/600	799
Apple	LaserWriter 12/640	1379
Epson	Stylus Color 600	299
Epson	Stylus Color 800	419
HP	LaserJet 4MV	2725
HP	Color LaserJet 5M	4939
HP	LaserJet 6MP	879

Removable Hard Drives

IOmega	ZIP 100MB Int. w/faceplate	\$ 179
IOmega	ZIP 100MB External	139
IOmega	JAZZ 1GB w/ Cart.-built up	419
IOmega	JAZZ 1GB w/ Cart.-Original	439
SYQUEST	230 MB EZ Flyer	239
Syquest	1.5 GB Syjet Internal	389
Syquest	1.5 GB Syjet External	459

Removable H. D. Media

IOmega	100mb Zip Cartridges	\$ 26
IOmega	1Gig Cartridges	83

SCSI Controller Cards

Atto	Pci Singel Channel Ultra	\$ 339
Atto	Pci Multi Channel Ultra	695
Remus	Lite	849
Atto	Express Stripe	189
Micro Outlet	4GB Raid	999
Micro Outlet	8GB Raid	2895
Micro Outlet	18GB Disk Array	5895
Micro Outlet	36GB Disk Array	12175

Scanners

AGFA	Arcus II	\$ 1559
AGFA	StudioScan Ilsi	589
AGFA	Snapshot	269
Epson	Express. 636 Artist	1228
Epson	Express. 636 Exec.	789
Epson	Express. 636 Prof.	1699
Microtek	Scanmaker III	1339
Umax	Mirage D-16L	Call
Umax	VistaSBE FV Photo	532
Umax	VistaS12 Photo Dix.	449
Umax	VistaS12 FV Photo	619

Software Specials

Adobe	Illustrator V 6.0	\$ 365
Adobe	PageMaker V 6.5	549
Adobe	Photoshop V 6.0	548
Adobe	Premiere V 4.2	487
Connectix	Conflict Catcher 4.0	59
Insigina	Softwindows '95	339
Microsoft	Office V 4.2.1	449
Macromedia	Freehand V 7.0	399
Quark	Xpress V 3.3.2	639

Newer Technology

MAXPOVR	PCC604-250 0K-CACHE	\$ 1089
MAXPOVR	PCC604-200 0K-CACHE	889
16SCC	ULTRADOCK W/ETHERNET	469
ETHERNET	MICRODOCK FOR DUO 2300-280c	169

Video Cards

ATI	Exclaim GA 2MB	\$ 229
ATI	Exclaim GA 4MB	325
ATI	Exclaim VR 2MB	220
ATI	Exclaim VR 4MB	289

Hard Disk Drives

Quantum	Atlas 1.07 GB	\$ 275
Quantum	Fireball TM 1.2 GB	239
Quantum	Fireball TM 2.1 GB	317
Quantum	Fireball TM 3.2 GB	363
IBM	Ultrastar II 2.1 GB	403
Quantum	Atlas 2.1 GB	495
Seagate	Hawk 2.1 GB	499
Seagate	Barracuda 2.1 GB	699
Seagate	Barracuda 2.1 GB	704
IBM	Ultrastar II 4.32 GB	679
Fujitsu	Allegro 4.4 GB	825
Quantum	Atlas II 4.5 GB	839
Quantum	Atlas II 4.5 GB	949
Seagate	Barracuda 4.3 GB	999
Seagate	Barracuda 4.3 GB	1065
Quantum	Atlas II 9.0 GB	1520
Quantum	Atlas II 9.0 GB	1520
Seagate	Barracuda 9.0 GB	1950
Seagate	Barracuda 9.0 GB	1959

Low Priced Memory

4MB	72 Pin Simm	\$ 31
8MB	72 Pin Simm	46
16MB	72 Pin Simm	87
32MB	72 Pin Simm	169
8MB	168 Pin Dimm	52
16MB	168 Pin Dimm	89
32MB	168 Pin Dimm	169
64MB	168 Pin Dimm	325
8MB	PB 1400 Mem. Module	82
16MB	PB 1400 Mem. Module	120
32MB	PB 1400 Mem. Module	239
48MB	PB 1400 Mem. Module	CALL
8MB	PB 3400 Mem. Module	82
16MB	PB 3400 Mem. Module	125
32MB	PB 3400 Mem. Module	260
48MB	PB 3400 Mem. Module	329
16MB	Motorola Mem. Module	120
32MB	Motorola Mem. Module	195
64MB	Motorola Mem. Module	345
VRAM		
1MB	7200,7500,7600,8500 Series	\$ 39
2MB	ATI VRAM Card-9500 Series	99
2MB	Motorola Dimm Upgrade	79
4MB	Motorola Dimm Upgrade	125

Leasing Specialists

- Fast Approval
- Lowest Rates • No Advance Payments
- Tax Deductible
- Business & Personal Leasing Available
- Ask For The Leasing Department

Lease Special

9600/200 MHz MP
• 32MB RAM
• 4GB HD, 12X CD
• Keyboard

36 Month Lease: **\$158**

BankVest
Financial Services

Apple PowerPC

http://www.microoutlet.com email: sales@microoutlet.com

GE 3 YEAR EXTENDED WARRANTY

\$351 to \$700	\$701 to \$1200	\$1201 to \$2000	\$2001 to \$3000	\$3001 to \$4000	\$4001 to \$5000
\$79.95	\$139.95	\$169.95	\$199.95	\$229.95	\$259.95

B.V. 36 MONTH LEASE RATES (FMV)

\$3000	\$5000	\$7000	\$10000	\$12000	\$15000
\$109	\$165	\$231	\$314	\$377	\$471



MICRO OUTLET 2785 PACIFIC COAST HIGHWAY #178 TORRANCE, CA • 90505 BUSINESS HOURS: MONDAY-FRIDAY 7:00 AM to 7:00 PM PST SATURDAY 10:00 AM to 2:00 PM PST
Due to publication time, advertising prices may vary. All prices include cash discounts. Not responsible for typographical errors. Shipping and service fees are non-refundable.
No sales tax outside of CA. All returns subject to 15% restocking charge. All returns must have an authorization number (R.M.A.) Graphics shown do not necessarily represent actual product.



Open: 9am-7pm M-F / 10am-4pm Sat. CST E-Mail Us at: owc@macsales.com



ther World Computing

SERVING MAC UNIVERSE SINCE 1988

Competitive Prices, Quality Products and NEVER a Surcharge for Credit Cards!



800-275-4576

FREE GIFT
WITH ANY
POWERMAC
PURCHASE



**PowerMac
4400/200
\$1499**

603e/16/2GB/8XCD/256k L2/Kb

MONITOR SOLD
SEPARATELY

PowerMacs

PM 4400/200 603e/16/2GB/8X/256k L2/KB \$1499

New 6500

PM 6500's \$CALL
PM 7300/180 604e/16/2GB/12X/12/KB\$2099
PM 7300/200 604e/32/2GB/12X/256L2/KB\$2499
PM 8600/200 604e/32/2GB/ZIP/12X CD\$3099
PM 9600/200 604e/32/4GB/12X/KB\$3429
PM 9600/233 604e/32/4GB/12X/KB\$3999

Call for Best Prices on PowerTools StarMac Clones

Factory Refurbished PowerMacs



Factory
Refurbished
With Full 90
Day Apple
Warranty

**PowerMac Performa 100MHz.
Performa6290/100 16/1 GB/4xCD/Kb ... \$729**

Check our website for other used and Factory Refurbished Macs

Sound System Special

**Atlantic Technology TOP RATED
50 Watt Sub-Woofer
Speaker System \$99**
3 Pc. Set with free stands while supplies last (retail: \$269)
* with any purchase. \$199 purchased alone



TECHWORKS



Mac Memory

Authorized TechWorks Reseller. New, Top Grade Memory from
Techworks & Other Major Producers
10 Day Money Back Guarantee
Lifetime Replacement Warranty

168 PIN DIMMS 2k Refresh
8 MEGABYTE 60 NanoSeconds\$49 EDO DIMMs for
16 MEGABYTE 60 NanoSeconds\$89 PowerBase,
32 MEGABYTE 70 NanoSeconds\$85 StarMax, &
64 MEGABYTE 60 NanoSeconds\$175 Compatibles
60 NanoSeconds\$329 Now Available

72 PIN SIMMS 2k Refresh Non-Parity
4 MEGABYTE 70 NanoSeconds\$21 60 NanoSeconds\$22
8 MEGABYTE 70 NanoSeconds\$42 60 NanoSeconds\$44
16 MEGABYTE 70 NanoSeconds\$84 60 NanoSeconds\$85
32 MEGABYTE 70 NanoSeconds\$169 60 NanoSeconds\$171

30 PIN SIMMS Non-Parity for Older Macs
1 MEGABYTE 70 or 60 NanoSeconds\$9.75
2 MEGABYTE 70 or 60 NanoSeconds\$19
4 MEGABYTE 70 or 60 NanoSeconds\$29
8 MEGABYTE 70 or 60 NanoSeconds\$79
16 MEGABYTE 70 or 60 NanoSeconds\$149

Video Ram Memory Upgrades
256k PMac 7100/Quadra800/650\$15
512k PMac 8100/Quadra's/LC's\$25
1MEG PMac 72/75/76/8500 & Comp.\$35
2 MEG 9500/ATI Upgrade\$99

See More on your
Monitor with a
VRAM Memory
Upgrade Today!

CALL FOR PC EDO & PARITY MEMORY

**Quantum 1.2 Gig
11ms FireBall**

Internal with 1 Year Warranty



**Quantum 1.2 Gig
11ms FireBall**
External \$269

**FWB HD Tool Kit Included
30 Day Money Back Guarantee
Full Manufacturer Warranty**

HardDrives Include
SYSTEM 7.1 INSTALLED & 30MB OF
FREE SOFTWARE. EXTERNAL VER-
SION FEATURES PLATINUM CASE
WITH DUAL SCSI PORTS, PUSH-BUT-
TON SCSI ID AND 40 WATT POWER.

SCSI Hard Drives

SCSI Hard Drives	Int.	Ext.
1.2GIG Quantum FireBall 11ms 1 yr. warr.	\$225	\$269
2.1GIG Quantum FB Tempest 10.5ms 3 yr.	\$309	\$359
2.1GIG Quantum Atlas 8ms 5 yr. warr.	\$499	\$549
3.2GIG Quantum FB Tempest 10.5ms 3 yr.	\$359	\$409
4.3GIG IBM UltraStar II 1/3 hgt. 8.5ms 5yr	\$599	\$649

Call or visit our web site for full line of 2.5" & 3.5" IDE Hard Drives.

Removable Storage

Removable Storage Drives	Int.	Ext.
Iomega Zip 100MB SCSI with 1 Cartridge	\$179*	\$149
Iomega Jaz 1GIG SCSI with 1 Cartridge	\$359*	\$399
Iomega Jaz Special With 4 Cartridges	\$569*	\$599
Iomega Jaz/Sony 2X6X Read CDR Combo		\$799
Zip Cartridges each.	\$9.99	
Jaz Cartridges each.	\$89	

* JAZ AND ZIP INTERNALS INCLUDE BEZEL AND MOUNTING KIT FOR COMPUTER OF YOUR CHOICE.

GET THE FULL DETAILS ON ACCELERATING
YOUR MACINTOSH ON OUR WEBSITE AT:

www.fastermacs.com



Mac & PowerMac Acceleration Products

Accelerators

AfterBurner 604\$59.95
For all 7600/8500/9500 PCI PowerMac, and 7500's with a 604
Processor Card Upgrade. Accelerate up to 168 Mhz with the OWC
AfterBurner604. Designed to be the easiest way to crank more power
out of your processor. Unlike other accelerators, once installed, the
speed of the OWC AfterBurner604 can be easily adjusted without
removing the processor card!

ROCKET 61/71/8100\$49.95
Accelerate the CPU speed of your PMac 61/71/8100 and Performa
61XX by as much as 50%! Quick, Easy Safe Installation • 16 Speed
Settings • Quiet Fan Keeps CPU at Optimum Temperature • 1000's of
Satisfied Users

605 Booster\$39.95
For all Quadra 605, Performa 47X and LC 47X Macs. Instant 30%
Acceleration Increase to 33 Mhz. Simple Plug and Play Installation. No
Permanent Modifications. No Soldering.

L2 Cache

LifeTime Warranty on Cache
256k L2 CACHE
for 6100/7100/Performa 61xx Series & AVs **ONLY \$15**

256k L2 CACHE & ROCKET COMBO\$59
KIT NEARLY DOUBLES PMac 61/71/Performa 61xx PERFORMANCE

L2 PCI DIMM CACHE CARDS

for 72/75/76/85/9500 & Compatibles		
256K	.....\$39	512K .....\$99
CACHE for 6400/5400/6360/StarMax		
256K	.....\$109	512K .....\$159



www.macsales.com
24hr. OnLine Web Ordering
and Product Information
**DAILY UPDATED PRICES
and SPECIALS**

**SCHOOL/GOVERNMENT/CORPORATE
PURCHASE ORDERS ACCEPTED**
(SUBJECT TO CREDIT APPROVAL)

PowerPort Mercury
Global Village
19.2 Data/Fax Modem for
PowerBook 520 & 540
ONLY \$99!

FREE GIFT
WITH ANY
POWERBOOK
PURCHASE



New PowerBooks

1400cs/117 12/750 MB	.....\$1599
1400cs/117 16/750 MB/6XCD	.....\$1899
1400cs/133 16/1.3 GB/6XCD	.....\$2949
3400c/180 16/1.3 GB/33.6 Mdm/Ethernet	.....\$4299
3400c/180 16/1.3 GB/6XCD/33.6 Mdm/Eth	.....\$4599
3400c/200 16/2 GB/6XCD/33.6 Mdm/Eth	.....\$4999
3400c/240 16/3.1GB/12XCD/33.6 Mdm/Eth	.....\$5999

PowerBook Memory

PowerBook 3400 Series Memory

16 MEGABYTE	.....\$139	64 MEGABYTE	.....\$449
32 MEGABYTE	.....\$229	96 and 128 MEG	.....CALL

PowerBook 1400 Memory

8 MEGABYTE\$89	16 MEGABYTE\$139	24 MEGABYTE\$179
------------	-----------	-------------	------------	-------------	------------

PowerBook 5300 and 190 Series Memory

8 MEGABYTE	.....\$99	24 MEGABYTE	.....\$199
12 MEGABYTE	.....\$119	32 MEGABYTE	.....\$249
16 MEGABYTE	.....\$129	48 MEGABYTE	.....\$429

PowerBook 500 Series Memory

8 MEGABYTE	.....\$89	24 MEGABYTE	.....\$179
12 MEGABYTE	.....\$109	32 MEGABYTE	.....\$229
16 MEGABYTE	.....\$129		

PowerBook Duo Series Memory (For All Duo PowerBooks)

8 MEGABYTE	.....\$79	28 MEGABYTE	.....\$229
12 MEGABYTE	.....\$119	36 MEGABYTE	.....\$279
20 MEGABYTE	.....\$179		

PowerBook Duo 2300 Series Memory (For 2300 Duo ONLY)

16 MEGABYTE	.....\$129	40 MEGABYTE	.....\$289
24 MEGABYTE	.....\$189	48 MEGABYTE	.....\$349
32 MEGABYTE	.....\$229		

PowerBook Hard Drives

2.5" SCSI PowerBook Drives	Int.
514 Mb New Quantum Daytona 12ms SCSI	.....\$349
1GIG New Apple 12ms SCSI	.....\$449

Call for full line of IDE PowerBook Drives

Monitors

APPLE 15" AV Multiscan	.....\$459
APPLE 1705 Multiscan	.....\$659
APPLE 1710	.....\$829
APPLE 1710 AV Multiscan	.....\$879
APPLE 20" Multiscan	.....\$1699
ViewSonic E641 14" 28dp	.....\$249
ViewSonic E655 15" 28dp	.....\$349
ViewSonic 17G5 27dp 1280x1024	.....\$629
ViewSonic 17GA 27dp 1280x1024	.....\$659
ViewSonic 21P813 25dp 1600x1200	.....\$1699
Sony CPD200SF 17"	.....\$799
Sony CPD300SF 20"	.....\$1799

Call for Displays Up to 29"!

Keyboards

Apple Extended Keyboard II	.....\$149
Apple Design Extended Keyboard	.....\$80
MacAilly Extended ADB Keyboard	.....\$59
Generic 105 Extended ADB Keyboard	.....\$39

Other World Computing

224 West Judd St., Woodstock, IL 60098
International: (815) 338-8685
Fax: (815) 338-4332

Prices and specifications subject to change w/o notice. 15% restocking fee applicable for all returned merchandise.

Shipping World Wide

CALL (800) 689-3933UNIVERSITY, SCHOOLS, GOV'T
& FORTUNE 1000 P.O.'S ACCEPTED!

Call for Quantity Pricing!

INTERNATIONAL ORDERS WELCOME CALL PH. (310) 479-0999

Customer Service (310) 473-2535 FAX (310) 312-9041

E-Mail us or place your orders on-line at: lacc@lacc.com**POWERMACS****9500's 8500's 6500/200**

NEW

180MP \$2899 32/2GB/8xCD 132MHz! \$1995 16/2GB/4xCD	180MHz! \$call 32/2GB/8xCD 150MHz! \$call* 16/2GB/4xCD 120MHz! \$call 16/2GB/4xCD	225MHz! \$1799 POWER PC w/500MHz Processor 32/4GB/12xCD/36.6 Mbm 250MHz! \$2099 POWER PC w/500MHz Processor 32/4GB/12xCD/36.6 Mbm/ZIP drive 250MHz! \$2299 POWER PC w/500MHz Processor 48/4GB/12xCD/36.6 Mbm/ZIP drive with Microsoft Office
----------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

7600's **7500/100**

132MHz! \$1649* 16/1.2GB/8xCD 120MHz! \$1399* 16/1.2GB/4xCD	18/1GB/4xCD w/1MB Vram \$1299
------------------------------------------------------------------------------------	--------------------------------------

PERFORMAS

6320CD
16/1.2GB/CD/28.8Kbps
No Monitor
\$899*

6300CD
16/1GB/CD/Modem
No Monitor
\$849*

6116CD
8/700/CD No Modem
No Monitor
\$699*

640CD
12/500/2xCD DOS No Modem
No Monitor
\$749*

5215CD
8/700/4xCD/14.4
No Monitor
\$1049*

6200CD
8/700/CD
No Monitor
\$699*

6400CD

180MHz! \$1199/999*
16/1.6GB/8xCD/28.8Kbps
No Monitor

200MHz! \$1399
16/2.4GB/8xCD/28.8Kbps
256K L2Cache, No Monitor

200MHz! \$1895
VIDEO EDITION
16/2.4GB/8xCD/28.8Kbps
256K L2Cache, No Monitor

5320CD
16/1GB/CD/KBBD
15" MONITOR
\$1269

UMAXComputer Corporation
Ultimate Expandability

\$900/604e 32MB/2GB/8MBVRAM/8xCD/Keyboard
250MHz! Tower \$4399

\$900/DP/604e 32MB/2GB/4MBVRAM
233MHz! Tower \$3699

\$900/604e 32MB/2GB/8MBVRAM/Keyboard
200MHz! Tower \$2999

J700/604e 24MB/2GB/2MB VIDEO ENET 33.6 MOEM
180MHz! Tower \$2299

J700/604e 24MB/2GB
150MHz! Desktop \$1799

PowerComputing

PowerTower Pro 225*
225MHz 604e RISC Processor 16/2G/8xCD/8MBVRAM
\$2799

PowerTower Pro 180*
180MHz 604e RISC Processor 16/2G/8xCD
\$2299

PowerCenter 166 MT*
166MHz 604e RISC Processor 16/2G/8xCD
\$1399

COMES WITH YEAR ON SITE WARRANTY

Radius	Newer Technology	FWB Incorporated	Integrated Micro Solutions
PressView 17SR \$1899 PressView 17SR \$3049 Precision View 21 \$2229 PrecisionColor 8/1600 \$1399 ThunderPower 120 \$1159 VideoVision 2.0 PCI \$3449	200MHz \$899 180MHz \$757 Nupower 200MHz for PB1400 \$569 1658 Video Out Card \$669 Linkcom External 33.6 Modem \$159 CardCAM Video-In Card \$339	JackHammer PCI Accelerator \$315 SledgeHammer 17400 PCHV \$5389 Hammer DLT-15GB CD Recordable \$1299	TwinTurbo 128M 4MB VRAM \$349 TwinTurbo 128M 3MB VRAM \$599

Hard Drives

1GB SCSI Quantum \$279	Microsoft Word 6.01 \$278
2GB SCSI Quantum \$349	Microsoft Office 4.2.1 \$389
3GB SCSI Quantum \$399	Adobe Photoshop 4.0 \$450
4GB SCSI Quantum \$799	Adobe PageMaker 6.5 \$479
9GB SCSI Seagate \$1799	Adobe Illustrator 6.0 \$343
	Director Multimedia Studio \$836

The Latest Software

Supra FAX Modem

Fax/Modem 33.6 v.34 \$189	ArtPad II 4x5 \$135
SupraSonic 33.6 \$229	Art2 II 6x8 \$299
SupraExpress 33.6 \$125	Art2 II 12x12 \$389

Epson

EPSON 600 \$299	Ediz 230MB Drive & Cartridge \$235
EPSON 800 \$439	SyJET 13GB Drive & Cartridge \$499
EPSON 1600 \$869	

Wacom

Microtek

SuperScan MC801 HR \$1799	Nikon Electronic Imaging
SuperScan MC511 17" (26) \$789	
SuperScan MC20 20" \$1299	SuperCoolScan External \$1849
SuperScan MC801 21" \$1599	LS-20 CoolScan II \$1159

Power Book**3400C**
240MHz!
Now In Stock!

200MHz! 16MB/2GB/CD6X \$4899.00	240MHz! 16MB/3GB/CD6X \$5899.00
180MHz! 16MB/1.3GB \$3899.00	180MHz! 16MB/1.3GB/CD6X \$4299.00

*****PowerBooks*****

WHILE SUPPLIES LAST

SALE

DUO 2300C
DUO 2300C 8/750 \$1099*
DUO 2300C 20/1GB/14.4 F/M \$1399*

FREE CASE WITH ANY DUO 2300C
3 YEARS WARRANTY AVAILABLE ASK FOR DETAILS

*****Printers*****

HP DeskJet 870Cxi \$499	1400C/133 16/1GB/CD \$2899
HP LaserJet 6MP \$889	1400C/117 16/1G/CD \$2799
HP LaserJet 5M \$1779	1400CS/117 12/750 \$1549
HP LaserJet 4MV \$2299	1400CS/117 16/750/CD \$1799
HP 5MColor \$6699	3400'S ALL CONFIG IN STOCK
LaserWriter Personal 320 \$499/599	5300C 32/1GB \$CALL
LaserWriter 4/600* \$649	5300C 6/750 \$2399
LaserWriter Select 360* \$999	5300C 8/500 \$1799
LaserWriter 16/600/PS \$2049	5300CS 16/750 \$2099
LaserWriter 12/660 Color \$3999	5300CS* 8/500 \$1699
StyleWriter 1200 \$169/129*	520C 4/240 \$CALL
StyleWriter 1500 \$249	520 4/240 \$CALL
StyleWriter 2500 \$329/199*	190CS 8/500 \$CALL
StyleWriter 2400* \$169	DUO250* 12/200/MOD \$799

*****Monitors*****

NEC 14" C400 \$299	DUO280* 12/240/MOD \$999
15" MultiScan \$299*/\$399	DUO2300C 8/750 \$CALL
15" AV MultiScan \$439	DUO2300C20/1.1GB/MD\$CALL
1705 17" MultiScan \$629	***Trade in your PowerBook***
1710/1710AV MultiScan \$699/799	1400C 117 to 3400C, 200M \$3199
20" MultiScan \$1499/1199*	5300 to 1400c/CD \$2499
NEC 15V/17XV \$449/699	5300cs to 1400cs/CD \$1649
SONY 100SF/100SX 15" \$429/379	5300cs to 1400c/CD \$2099
SONY 200SF/200SX 17" \$759/649	5300c to 1400cs/CD \$2149
SONY 300SF 20" \$1579	5300ce to 1400c/CD \$1799

*****Scanners*****

AgfaArcus II \$1549	540c to 1400c/CD \$2099
AgfaStudioStar w/Photo \$999	***WorkGroup Servers***
AgfaStudioScan II w/LE \$649	7250/120 16/1.2GB/CD/NETWK \$1499
AgfaSnapScan w/LE Photo \$299	8150/110 16/1G/CD/DAT/AS \$2999
ASTRA 600S Flatbed w/Deluxe \$299	8550/132 24/2GB/CD/AS \$3499
Umax Vista S6 w/Photo \$549	8550/132 24/2GB/CD/INT \$2499
Umax Vista S12 w/Deluxe \$599	8550/200 32/2GB/CD/APPLE SHARE \$4399
PowerLookII w/Photo full \$1299	8550/200 32/2GB/CD/APPLE SHAR/DAT \$5299
Umax Gemini V-16 \$1099	
Umax PowerLook 2000 \$4499	

*****Accessories*****

Internal 14.4 Performas \$49	
Mercury 19.2Kbps for PB500 \$129	
Powerport Gold14.4 \$99	
Powerport Platinum 28.8 \$299	
Powerport Platinum 28.8+Enet \$429	
Teleport Gold II 14.4 \$79	
Teleport Platinum 33.6 \$189	

WE ACCEPT TRADE INS!TOP DOLLARS PAID FOR NEW, DISCONTINUED
& USED COMPUTERS OR POWER BOOKS & DUOS**GE 4 YEAR ON SITE WARRANTY!**

ASK YOUR SALES REP REGARDING GE EXTENDED ON SITE WARRANTY

\$100 to \$350	\$351 to \$350	\$701 to \$1200	\$1201 to \$2000	\$2001 to \$3000	\$4001 to \$5000
\$49.95	\$79.95	\$139.95	\$169.95	\$199.95	\$259.95

FedEx

- WE SHIP WORLDWIDE
- NEXT DAY SHIPPING
- SAME DAY SHIPPING

OPEN MON-SAT, VISIT OUR SHOWROOM!

12002 PICO BLVD. WEST LOS ANGELES, CA 90064

Visit Us At Our Web Site <http://www.LACC.com>**24Hrs A Day -- On-Line Catalog & Ordering**E-Mail us at: lacc@lacc.com

Reflects Refurbished Units. Prices Subject To Change Without Notice. CALL FOR LATEST PRICE. ALL PRICES REFLECT A 3% CASH DISCOUNT. Credit Cards Will Be Verified For Fraudulent Use.

Mac Products at Discount Prices. ClubMac®

GRAPHICS SOFTWARE

PageMaker 6.5
Adobe A030 1015 GSU Upgrade for
\$89.95

ADOBE
A030 1003 Illustrator 7.0 CD upgrade.....\$89.95
A030 1001 Photoshop 4.0 upgrade.....\$129.75
A030 1060 PhotoDeluxe 1.0.....\$48.95
A030 1015 PageMaker 6.5 upgrade.....\$89.95
A030 1054 PageMill 2.0 upgrade.....\$46.85

DENEBA
D059 1009 Canvas 5.0 Upgrade.....\$129.95

QUARK
Q069 1001 QuarkXPress 3.3 CD.....\$658.95

MACROMEDIA Freehand 7
Upgrade for M209 1018 70U
\$138

MACROMEDIA
M209 1018 FreeHand 7 Upgrade.....\$138.00
M209 1076 Director 6 Multimedia Studio bundle upgrade.....\$499.00
M209 1046 FreeHand Graphics Studio 7 Upgrade.....\$184.95

FRACAL
F039 1003 Painter 4.0 upgrade.....\$119.00
F039 1062 Poser 2 upgrade.....\$62.40
F039 1057 Detailer (sidegrade).....\$139.99
F039 1055 Expression (sidegrade).....\$139.99

SYQUEST DRIVES

syJet 1.5 GB
1.5GB
\$198 2100
\$499

S198 2100 SyQuest SyJet 1.5GB Removable.....\$499
C104 1801 ClubMac 200MB 5.25" Removable.....\$389.95
S198 2002 SyQuest EZFlyer 230MB Removable.....\$249.95

Genuine SyQuest Media

Part	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	\$40ea	\$39.50ea	\$39ea
S198 1011	88MB	\$44ea	\$43.50ea	\$43ea
S198 1012	200MB	\$69ea	\$68ea	\$67ea
S198 1014	270MB	\$57ea	\$56ea	\$55ea
S198 1010	1.5GB	\$124.95ea	\$123ea	\$121ea
S198 2011	E2230MB	\$30ea	\$29.50ea	\$29ea

SOUTHLAND MICRO SYSTEMS
ClubMac Slashes Memory Prices
Guaranteed Compatibility
Memory prices fluctuate frequently, please call for latest prices.
memory as low as \$15

32-Bit 72pin SIMMS

M101 1031	4MB 1X32 70NS	\$25
M101 1054	8MB 2X32 70NS	\$47
M101 1072	16MB 4X32 70NS	\$89
M101 1070	32MB 8X32 70NS	\$189

8-Bit 30pin SIMMS

M101 1017	1MB 1X8 70NS	\$15
M101 1026	2MB 2X8 70NS	\$25
M101 1042	4MB 4X8 70NS	\$39

64-Bit 168pin DIMMS
(PCI PowerMac, Umax, PowerComputing)

M101 1081	8MB DIMM Module	\$55
M101 1082	16MB DIMM Module	\$95
M101 1083	32MB DIMM Module	\$195
M101 1084	64MB DIMM Module	\$389

BUSINESS SOFTWARE

CASADY & GREEN
C049 1009 Conflict Catcher 4.0.....\$58.95
C049 1008 SpellCatcher.....\$59.95

CLARIS
C089 1002 FileMaker Pro 3.0 upgrade.....\$89.85
C089 1002 FileMaker Pro 3.0.....\$181.85
C089 1027 ClarisWorks 4.0 upgrade version.....\$62.95

CONNECTIX
C149 1020 RAM Doubler 2.....\$28.95
C149 1028 Speed Doubler.....\$28.95
*After \$25 mail-in-rebate for users of previous versions.

COREL
C309 1016 COREL WordPerfect 3.5 upgrade for Mac.....\$79.50
C309 1017 COREL DRAW 6.0 Suite upgrade for Mac.....\$136.25

Microsoft Office
Upgrade for M089 1021
\$265

MICROSOFT
M089 1021 Office Standard 4.2.1 upgrade CD or Disk.....\$265.00
M089 1034 Word 6.0.1 upgrade.....\$114.95
M089 1029 Excel 5.0 upgrade.....\$114.95
M089 1040 Works 4.0.....\$45.00

HARD DRIVES

Quantum
Description. Model Access Interface RPM Int Ext

1.2GB Tempest	QM31280TMS	10.5ms	Ultra SCSI-3	4500	\$229	\$289
2.1GB Tempest	QM32150TMS	10.5ms	Ultra SCSI-3	4500	\$299	\$359
3.2GB Tempest	QM33255TMS	10.5ms	Ultra SCSI-3	4500	\$349	\$409
4.5GB Atlas II	QM34550ALS	8ms	Ultra SCSI-3	7200	\$799	\$859
4.5GB Atlas II	QM34550ALW	8ms	UltraWide SCSI-3	7200	\$899	\$999
9.1GB Atlas II	QM39100ALS	8ms	Ultra SCSI-3	7200	\$1399	\$1459
9.1GB Atlas II	QM39100ALW	8ms	UltraWide SCSI-3	7200	\$1449	\$1549

Quantum Tempest drives carry a 3 Year Warranty
Quantum Atlas drives carry a 5 Year Warranty

Seagate
Seagate drives carry a 5 Year Warranty

4.3GB Barracuda 4LP	ST34371N	8.5ms	Ultra SCSI-3	7200	\$839	\$899
4.3GB Barracuda 4LP	ST34371W	8.5ms	UltraWide SCSI-3	7200	\$899	\$999
9.1GB Barracuda 9	ST19171N	8ms	Ultra SCSI-3	7200	\$1539	\$1599
9.1GB Barracuda 9	ST19171W	8ms	UltraWide SCSI-3	7200	\$1599	\$1699

ClubMac drives are preformatted and thoroughly tested. ClubMac drives include a 30-Day Money Back Guarantee. Charismatic Anubis Formatting Utility software, user's guide, brackets (wide drives include internal ribbon cable), 25/50-pin SCSI cable and power cord for external drives (wide drives include 68/68 pin SCSI cable).

CD ROM DRIVES

ClubMac 12X External CD-ROM Drive
C104 1770 ClubMac 12X External CD-ROM Drive.....\$179
C104 1730 ClubMac Nakamichi 8X, 4 Disc changer.....\$259

MODEMS

GLOBAL VILLAGE

G050 1029	56K Fax Modem	\$215
G050 1025	TelePort 33.6kbps data (Internet Ed)	\$149
G050 1019	PowerPort Platinum PC Pro 28.8/10BT	\$435

BEST DATA

B020 1013	Best Data 56K Smarttone Modem	\$155
B020 1010	Best Data 33.6 Fax/Modem	\$69.95
B020 1012	Best Data 33.6 w/Speakerphone	\$89.95

U.S. ROBOTICS *After \$20 mail-in rebate, offer ends 6/15/97

UJ020 1056	US Robotics Sportster 56K Modem	\$217
UJ020 1025	33.6 Sportster Voice for Mac 33.6 data	\$169
UJ020 1021	33.6 Sportster for Mac 33.6 data	\$139

PRINTERS

EPSON Stylus 600
E047 1034
1440DPI
\$299

EPSON
E047 1034 Epson Stylus Color 600.....\$299
E047 1035 Epson Stylus Color 800.....\$449
E047 1022 Epson Stylus Pro XL w/Line Picture 2.5.....\$1499

HEWLETT PACKARD
H047 1076 HP DeskJet 870CXI Color InkJet.....\$498
H047 1077 HP LaserJet GMP Printer.....\$885

MAC OS SOFTWARE

System 7.6
w/ Apple Internet Kit
Upgrade for A109 1196 76UCD
\$69.95

A109 1186 Apple Mac OS 7.6 CD.....\$93.95

INTERNET SOFTWARE

PageMill 2.0
Upgrade from SiteMill
Adobe A030 1054 20U
\$46.85

ADOBE
A030 1054 PageMill 2.0.....\$94.80
A030 1054 PageMill 2.0 upgrade from SiteMill 1.0.....\$46.85

ALADDIN
A290 1001 StuffIt Deluxe.....\$69.95
A290 1005 CyberFinder.....\$19.95

APPLE
A109 1378 Apple Internet Connection Kit 1.2 (AICK).....\$43.50

CE SOFTWARE
C209 1010 WebArranger.....\$79.95

CLARIS
C089 1039 Claris Home Page 2.0.....\$86.95

SOFT QUAD
S609 1001 HotMetal Pro 3.0.....\$119.95

PowerComputing PowerBase 180

\$1295 INCLUDES FREE SOFTWARE!

- 180MHz 603e PowerPC
- 16MB RAM
- 1.2GB HD
- 8X CD
- Upgradeable CPU card

Monitor not included.

P512 1009 PowerBase 180LP 180MHz/16MB/1.2GB, 8X CD.....\$1295
P512 1010 PowerBase 200LP 200MHz/16MB/1.2GB, 8X CD.....\$1495
P512 1011 PowerBase 240LP 240MHz/16MB/1.2GB, 8X CD.....\$1895
*MiniTower models available for \$100 more.

ClubMac also sells Apple, Umax, and Motorola.

IOMEGA SOLUTIONS

Includes One Free Cartridge
100MB
\$149.95

IOMEGA ZIP DRIVES

Zip Drive w/one cartridge	\$149.95
Zip Bundle - Zip drive, 11 Disks, Case, 2 Caddy's	\$279.95
Zip Drive Internal - all PowerMacs	\$159
Zip Drive Internal - all PowerComputing/Umax	\$139

Z I P M E D I A				
FORMAT	Part#	Qty 1-2	Qty 3-9	Qty 10+
MAC	1040 1006	\$19.95	\$16.65	\$12.99**
PC	1040 1009	\$19.95	\$16.65	\$12.99**

* Qualifies for \$20 cash mail-in rebate.

IOMEGA JAZZ DRIVES

Jaz Drive w/one cartridge.....\$399.95
ClubMac Jaz Drive w/one cartridge.....\$369
ClubMac Jaz Drive w/three cartridges.....\$469
Jaz Drive Internal - all PowerMacs.....\$299
Jaz Drive Internal - all PowerComputing/Umax.....\$279

JAZ MEDIA

Format	Part#	Qty 1-2	Qty 3-5	Qty 6+
MAC	1040 1015	\$124.95	\$99.95	\$89.95
PC	1040 1037	\$124.95	\$99.95	\$89.95

ClubMac \$2499
COMPARE OUR PRICES & SAVE!
24 HOURS A DAY OPEN 7 DAYS A WEEK
Call Today
for Your FREE subscription to the ClubMac Catalog

1-800-217-9208

7 Hammond, Irvine CA 92618

General Sales.....24 Hours a Day, 7 Days a Week (800) 217-9208
Inquiries and Int'l Sales.....24 Hours a Day, 7 Days a Week (714) 768-8130
Corporate/Education Sales.....M - F 8:30am - 5:00pm PST (800) 258-2621
Technical Support.....M - F 6am - 6pm, Sat 8am - 1pm PST (800) 854-6622
24-Hour Fax.....(714) 768-9354
E-MAIL ADDRESSES Sales.....cnsales@club-mac.com
Customer Service.....custserv@club-mac.com
Technical Support.....techsup@club-mac.com

WARRANTIES: All items manufactured by ClubMac are returned to ClubMac for warranty repair. All other items carry manufacturer's warranty. **MONEY BACK GUARANTEE:** All products manufactured by ClubMac carry a 30 day money back guarantee. ClubMac extends all other manufacturers' return policies to its customers. Non-ClubMac products carry 30 day money back guarantee when specified. **RETURNS:** Call for RMA number! Any product that is returned WITHOUT an RMA number will be refused. ALL PRODUCT INFORMATION AND PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE. NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

ORDER TODAY!

ORDER 24 HOURS A DAY • 7 DAYS A WEEK

1-800-217-9208

Order On-Line @ <http://www.club-mac.com>

Source Code 62077

ClubMac®

The Macintosh Authority
MacNet
www.applemacnet.com

Get \$100 Discount when buying a Mac System with a Stylewriter 1500 printer!
We Carry all Motorola and Umax computers!
Leasing available* for businesses!
we beat any price advertised in this magazine!

Global Village
Teleport Speakerphone
Call sensing, internet access
Voice mail, Caller ID** & more.
**when available
○ call for details!



Performa 160
6360
While supplies last!
•603e
•16MB
•8XCD
•160mhz
•1.2GB HD
•SRS sound
•Keyboard
monitor sold separately!

2GB
WOW!
\$949.
Last Chance to buy

Power Macs

PowerBook

MEDIA

7300 180MHz

The best choice for Business and Education

As low as \$1,899.



4400 200MHz/16MB/2GB/8XCD/KYBD	\$1,299.00*
7300 200MHz/16MB/2GB/12XCD/KYBD	\$2,299.00*
8600 200MHz/32MB/2GB/12XCD/KYBD	\$2,859.00*
9600 200MHz/32MB/4GB/12XCD/KYBD	\$3,339.00*
9600 233MHz/32MB/4GB/12XCD/KYBD	\$3,899.00*
9600MP 200MHz/32MB/4GB/12XCD/KYBD	\$4,299.00*

3400/180MHz

1400cs



Power PC 603e	750MB
180MHz	117MHz
16MB Memory	
1.3GB HD	
6X CD	
256k I2 cache	

PowerBook 1400cs/117MHz 16MB/750MB/6XCD/11.3" Dual-Scan Displ...\$1,699.*
PowerBook 1400cs/133MHz/16MB/1.0GB/6XCD/11.3" Active Matrix Displ...\$2,999.*
PowerBook 3400cs/200MHz/16MB/1.3GB/6XCD/11.3" Active Matrix Displ...\$4,749.*

NEW! POWER MAC 6500 Series

Speed, Power and Unparalleled features!
Now you can play like the BIG BOYS!

- 6500/225MHz
- 32MB memory
- 3.0GB HD
- 12X CD
- 33.6 modem
- 256k I2 cache
- Internet access and navigation



6500 250MHz/32MB/4GB/12XCD/33.6Mdm/Zip dr.	\$2,149.00*
6500 250MHz/48MB/4GB/12XCD/33.6Mdm/Zip dr.	\$2,449.00*
6500 300MHz/64MB/4GB/12XCD/33.6Mdm/Zip drive....	Call
Performa 6400/180MHz/1.6GB/8XCD/28.8Mdm.....	\$1,149.00*

Monitors

Apple 15AV



Multiscan 14"	\$279.00
Multiscan 1705	\$629.00
Multiscan 1710	\$779.00
Multiscan 1710AV	\$859.00
Multiscan 20"	\$1,669.00

Sony

100SX 15"	\$379.00
100Sf 15"	\$429.00
200SX 17"	\$639.00
200Sf 17"	\$739.00
300Sf 20"	\$1,589.00
Se2 20"	\$1,799.00

Viewsonic

15GS 15"	\$342.00
15GA 15" AV	\$388.00
17EA 17" AV	\$598.00
GT770 17"	\$727.00
17PS 17"	\$929.00
G800 20"	\$1,075.00

Printers

Color Stylewriter 1500



Color StyleWriter 2500	\$289.00
Color StyleWriter 2200	\$199.00
LaserWriter 4/600	\$779.00
LaserWriter 12/660	\$4,999.00
LaserWriter 12/640	\$1,399.00

HP

DeskJet 870Cxi	\$465.00
DeskJet 870Cse	\$489.00
DeskWriter 1600CM	\$1,859.00
LaserJet 5MP	\$1,009.00
LaserJet 6MP	\$389.00

Epson

Stylus Color 400	Call
Stylus Color 600	\$289.00
Stylus Color 800	\$429.00
Stylus Color 1500	\$859.00
Stylus Color Pro	\$389.00

Tektronix

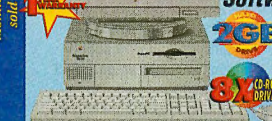
Phaser 140i	\$1,479.00
Phaser 350	\$3,199.00
Phaser 550 (Color Laser)	\$6,299.00

Apple Servers



7250/120MHz

- 16MB/2.0GB/8XCD/256k-L2
- Ethernet AAUI and 10baseT
- More than \$4000 in bundled Software.



FOR ONLY \$1,599.

WorkGroup Server Solution

7250/120MHz/16MB/2.0GB/8xCD	\$1,599.00*
8550/200MHz/32MB/2.0GB/8xCD/DAT	\$4,199.00*

Internet Server Solution

7250/120MHz/16MB/2.0GB/8xCD	\$1,949.00*
8550/200MHz/32MB/2.0GB/8xCD	\$3,699.00*

Apple Share Server Solution

7250/120MHz/16MB/2.0GB/8xCD	\$2,299.00*
8550/200MHz/32MB/2.0GB/8xCD/DAT	\$5,299.00*

Software Bundle Includes: File Wave / Now Contact/Virex Now Up-To-Date / Net Octopus/Viper Instant Access/Skyline/Satellite 4 Sight Fax Server.

*Software Bundle may vary over the life of this product. *monitor & keyboard not included!

Modems

SUPRA 33.6

FOR ONLY \$99.



Netopia™ ISDN\$269.00
Netopia 440 Internet router.....\$559.00

Farallon

SupraSonic™ 33.6	\$149.00
Supra Fax M 288 33.6	\$119.00

U.S. Robotics

Sportster Voice 28.8 (33.6).....	\$155.00*
----------------------------------	-----------

Sportster 33.6 Fax/Modem

FOR ONLY \$119.

*after manuf. rebate!

Scanners

Scanmaker E3

FOR ONLY \$179.



Agfa

SnapScan.....	\$299.00
StudioStar.....	\$699.00

Arcus II

ScanMaker E6.....	\$349.00
ScanMaker III.....	\$1,299.00

Microtek

NEW! \$249

Umax

Astra 600 ONLY	\$249
PowerLook Pro.....	\$1,289.00

Memory

ONLY 16 MB \$89

DIMMS

8MB (70ns).....	\$39.00
16MB (70ns).....	\$89.00
32 MB (70ns).....	\$179.00
64MB (70ns).....	\$349.00
128MB.....	\$999.00

SOFTWARE

Quark Xpress V3.32

NEW PRICE \$619.



Adobe After Effects Reg. Price \$599

FOR ONLY \$199.



Adobe Premiere 4.0 Reg. Price \$449

FOR ONLY \$149.



†When ordered w/ any software listed below!

Adobe Systems

PageMaker 6.5.....	\$399.00
Photoshop 4.0.....	\$399.00
Illustrator 6.0.....	\$349.00
Page Mill 2.0.....	\$99.00

Macromedia

Director.....	\$799.00
Free Hand V7.0.....	\$199.00

Specular

3D Web Workshop CD.....	\$145.00
Infini-D 2.5 (3D/Animat.).....	\$579.00
Collage 2.0 CD.....	\$94.00

Others

FileMaker Pro.....	\$169.00
SoftWindows.....	\$269.00
Corel Draw 6-CD(suite).....	\$199.00
Debabelizer.....	\$229.00

CALL 1-800-404-9976

www.applemacnet.com E-mail:support@applemacnet.com or sales@applemacnet.com Fax: 305-591-4391
ALL PRICES ARE CASH DISCOUNTED. prices & product availability subject to change without notice. *All orders returned are subject to a restocking fee! call for an RMA # first! Thank you!



* When ordered w/ Stylewriter 1500 printer

COMPU AMERICA

"The Computer Specialist"

1800-533-9005

HTTP://WWW.COMPU-AMERICA.COM

(310) 446-1771

FAX Bids

(310) 475-7744

10435 Santa

Monica Blvd

LA, CA 90025

EMAIL: CompuAmer@artnet.net

Come and see our HUGE showroom! We ship WORLDWIDE!

We accept Government, Fortune 1000, and University P.O.'s.



PowerComputing

WE CARRY THE WHOLE LINE
OF POWERCOMPUTING UNITS!
PTP 250MP, PTP 250, PCP 210!



PowerComputing

PowerTower Pro 225e

225MHz 604e Full Tower
16/2G/8XCD/8MB IMS
1MB CACHE, KEYBOARD

\$2599 Refurbished
One Year On-Site

PowerTower Pro 180e

180MHz 604e Full Tower
16/2G/8XCD/8MB IMS
1MB CACHE, KEYBOARD

\$2399 Refurbished
One Year On-Site

PowerCenter 604/180

180MHz 604e CPU MT
16/2G/8XCD/2MB VRAM
512k CACHE, Keyboard

\$1699 Refurbished
One Year On-Site

PowerCenter 604/166

166MHz 604 MT
16/1G/8XCD/2MB VRAM
512K CACHE, KEYBOARD

\$1399 Refurbished
One Year On-Site

6500/250 Business Solution

- 250 MHz PowerPC 603e RISC
- 256K Level 2 cache
- 2 PCI expansion slots (7-inch)
- Built-in 12x CD-ROM
- Internal 100MB Zip Drive
- Microsoft Office Included!!!
- Tons of Preinstalled Software
- Subwoofer speaker

48/4G/12XCD/ZIP \$2279



6500/250

- 250 MHz PowerPC 603e
- Built in ZIP Drive
- 256K Level 2 cache
- Built-in 12x CD-ROM

**32/4G/12XCD/ZIP
ON SALE! \$2099**

6500/225

- 225 MHz PowerPC 603e
- 256K Level 2 cache
- 2 PCI expansion slots (7-inch)
- Built-in 12x CD-ROM

**32/3G/12XCD
ON SALE! \$1799**

NEW POWERMACS!

9600/200MP	34/4G/12X	4195
9600/200	32/4G/12XCD	3195
8600/200	32/2G/CD/ZIP	2995
7300/200	32/2G/12XCD	2199
7300/180	16/2G/12XCD	1995
4400/200	16/1.2/8XCD	1395

POWERMAC

7200/75	8/500/4XC	799*
7200/90	8/500/4XCD	849*
7200/120	16/1.2G/8XCD	999*
7200/120	16/1.2G/DOOS	1699*
7500/100	16/1G	1099*
7600/120	16/1G/4XCD	1299*
7600/132	16/1G/CD	1499*
8500/120	16/1G/4XCD	1599*
8500/120	16/2G/4XCD	1699*
8500/132	16/1.2G/4XCD	1799*
8500/150	16/1.2G/8XCD	1995*
8500/150	16/2G/8XCD	2199*
8500/180	32/2G/8XCD	2499*
9500/120	16/1G/8XCD	CALL
9500/132	16/2G/8XCD/V	CALL
9500/132	16/2G/8XCD	CALL
9500/150	0/0/CD	CALL
9500/150	16/2G/4XCD/VID	CALL
9500/200	16/2G/8XCD	CALL
9500/180	MP 32/2G/8XCD	2799
8100/100	8/700	1199*
8100/110	16/2G/4XCD	1499*

WorkGroup Servers

7250/120	16/2G/CD	1095
7250/120	16/2G/INT	1695
7250/120	16/2G/CD/SHA	2199
8550/132	24/2G	2495
8550/132	24/2G/SHARE	3495
8550/200	32/2G/CD/INT	3995
8550/200	32/2G/CD/SHR	3295
8550/200	32/2G/CD/DAT	3995
500/132	32/CD/BASE	5995
500/132	32/2G/DAT/CD	7899
700/150	32/1G/CD	7499
700/150	48/4G/DAT/CD	9395
700/200	48/2G/CD	9995
9150/120	16/1GIG	1895

MICROTEK

ScanMaker E3	299
ScanMaker E6	547

POWERBOOKS

3400C/240	16/3G/12XCD	5395
3400C/200	16/2G/6XCD	4395
3400C/180	16/1.2G/6XCD	3895
3400C/180	16/1.3G	3495
1400C/133	16/1G/CD	2999
1400C/117	16/1G/CD	2899
1400CS/117	16/750/CD	1799
1400CS/117	12/750	1599
5300CE/117	32/1G	2299*
5300C/100	8/500	1695/1595*
5300CS/100	16/750	1495*
5300CS/100	8/500	1395*
5300/100	8/500	1099*
190CS/66	8/500	CALL
190/66	8/500	899
DUO 2300C	20/1.2GB/14.4	1399*
DUO 2300C	8/750/14.4	1099*
150	8/250	749

Apple Printers

SW 1200/2400	129*/169*
SW 2200	349
SW 1500	199/149*
SW 2500	279/199*
Apple LW Select 360	999*
Apple LW 4/600PS	749/649*
Apple LW 12/640/PS	1349
Apple LW 12/660PSC	5399
Apple LW 16/600PS	2099

VIEWSONIC

VIEWSONIC 15GA/15ES	439/379
VIEWSONIC 17GA/17EA	679/529
VIEWSONIC 17GS	639
VIEWSONIC GT770	689
VIEWSONIC PT770	789
VIEWSONIC GT800	1299
VIEWSONIC PT810	1699
VIEWSONIC P810	1549
VIEWSONIC P815	1699

AGFA

SNAP SCAN 3D	299
STUDIO SCAN II SI	639
STUDIOSTAR	829
ARCUS II	1795

PERFORMAS

6400/200V	16/2.4G/CD	1599*
6400/200	16/2.4G/CD	1149*
6400/180	16/1G/CD	999
6320/120	16/1G/CD	949/849*
6300/100	16/1.2G/4XCD	799*
6360/160	16/1.2G/8XCD	949*
6290/100	8/1.2GB/4XCD	749*
6220/75	16/1G/CD/TV	699*
6200/75	8/1G/4XCD	649*
6116/66	8/700/4XCD	649*
5320/120	16/1.2/CD/15"	1199
5260/100	16/800/CD	1099
5200/75	8/800/CD	1099*/949*
5400/180	16/1G/CD	1299
631/66	8/500/CD	599*

APPLE Monitors

Apple Ms 14"	249*
Apple MS 15"	349/299*
Apple MS 15AV	399
Apple 1705 17"	599/499*
Apple 1710 17"	729/699*
Apple 1710AV	829/799*
Apple Multiscan 20"	1499/1199*

SONY Monitors

Sony 100SF/100SX	449/379
Sony 200SF/200SX	759/649
Sony 300SF	1549

NEC Monitors

NEC 15XV+	449
NEC 17XV+	679/599*
NEC C500 15"	429
NEC C400 14"	329
NEC M500 15"	389
NEC M700 17"	729
NEC M750 17"	899
NEC E1100	1579
NEC P1150	1949

MODEMS

Global Village Plat 33.6 Voice	129*
Global Village Gold II 14.4	69
Global Village 28.8 PCMCIA	289
Global Village 28.8/ETHER	395
Global Village 19.2 500 Series	99
US Robotics X2 56.6	199

HewlettPackard

5M color	
5SIMX	
5M	
6MP	
4MV	
DeskWriter 680C	
Deskjet 870CXI	

EPSON

STYLUS COLOR 600	
STYLUS COLOR 800	
STYLUS COLOR PRO XL	
EXPRESSION/636/EXEC	
EXPRESSION/636/ART	
EXPRESSION/636/PRO	

RADIUS

PRESSVIEW 21SR 21"	
SUPERMATH 21TXL	
PRECISION VIEW 21"	
15" COLOR PIVOT	
Thunder 30/1600	
Thunder color 30/1600	
Thunder Power 30/1600	
Thunder Power 30/1920	
Thunder 3D 1600 x1200	
VIDEO VISION STUDIO 2.0	

IMS

TWIN TURBO 8 MEG PCI	
TWIN TURBO 4 MEG PCI	
TWIN TURBO 2 MEG PCI	

ATI

XCLAIM ULTRA VR 4 MEG	
XCLAIM ULTRA VR 2 MEG	
XCLAIM TV TUNER	
XCLAIM 3D 8 MEG ACCEL	

IOmega

ZIP DRIVE 100 MEG	
JAZZ DRIVE 1 GIG	
ZIP CART 10 PACK	
JAZZ CART	

RASTEROPS

SUPERSCAN MC-611	
SUPERSCAN MC-17S	
SUPERSCAN MC-801	
SUPERSCAN 801-HR	

GCC TECHNOLOGIES

6999	GCC ELITE 600ET (10PPM)	1099
3799	GCC ELITE XL-608	2099
1779	GCC ELITE XL-616	2349
879	GCC ELITE XL-808	2699
2199	GCC ELITE XL-1208	3899

WACOM

ARTZ II 6 X 8 W/PAINTER	579
ARTZ II 6 X 8	295
ARTZ II 12 X 12	429
ARTZ II 12 X 18	679

DIGITAL CAMERAS

1699	RICOH RDC-2 W/MONITOR	979
479	KODAK DC 25	
189	KODAK DC 20	
679	KODAK DC 50 ZOOM	
679	CASIO QV-300 W/MONITOR	

TRUEVISION

1679	TARGA 1000 PCI	
1995	TARGA 1000 PCI PRO	
2899	TARGA 2000 PCI	
3399	TARGA 2000 PCI PRO	

NEWER TECH.

599	PB 1400 200MHZ UPRGRADE	
529*	PB 500 167MHZ OMB	
629*	PB 500 167MHZ 8MB	
899	POWER MAC 200MHZ	
1129	POWER MAC 225MHZ	

UMAX COMPUTERS

329	C500/160	16/1.2/8XCD	1079
229	C600/180	16/1.2/8XCD	1299
89	C600/200	16/2G/8XCD	1479
339	C600/240	24/2G/MOD	1699
	J700/150	16/2G/8XCD	1899
	J700/180	24/2G/8XCD	2099
149	S900/180	32/2G/8XCD	2695
449	S900/200	32/2G/8XCD	2799
129	S900/225	32/2G/8XCD	3029
89	S900/240	32/2G/8XCD	4199

UMAX SCANNERS

299	VISTA S6E Photo Shop LE	
479	VISTA S6E FULL PHOTO	
589	VISTA S12 PHOTOSHOP LE	
669	VISTA S12 MAC PRO II	

All prices are subject to change without notice. All prices are cash discounted. An Asterisk reflect refurbished.

MicroMac Upgrades for older macs



Empower Your Mac II Series, SE/30 or LCIII with More Speed

Keys to Performance

The investment you've made in your Mac is an important one. That is why MicroMac offers affordable accelerator upgrades for a wide selection of Macintosh models ranging from the Mac Plus, SE and Classic, LC series, Centris and Quadras to Performas and PowerPCs. For the Mac II series, SE/30 and LCIII MicroMac has accelerators specifically tailored to meet your hardware and software environment.

The two most important upgrade priorities for the average user are speed and memory. Today's application software and Internet programs require a minimum system to be configured with a 32MHz 68030 processor (the brains of the computer) and 8MB of RAM (the area used by applications and System software to store data and other types of information).

When upgrading your Mac, keep in mind the following guidelines as "keys" to unlocking your Mac's best possible performance:

- More than 10MB of RAM is essential to optimally run multimedia, graphic-intensive Internet software
- An FPU (math coprocessor) is recommend for work involving number crunching, graphic design and desktop publishing
- For high-end performance a 50MHz 68030 or 66/33MHz or 80/40MHz 68040 is recommended



Carrera040
up to 630% faster!

Available for the Mac IICI, IISI, IICX and IIX, the Carrera040 accelerator upgrades your existing Macintosh computer to a blazing fast 66/33MHz or 80/40MHz 68040 processor – the same processor used in Apple's fastest Quadra computers. The 68040 processor is equipped to handle the most demanding tasks that businesses and users require, from word processing and spreadsheet analysis to graphic-intensive design, desktop publishing and Web page development. The Carrera040 is also available with an optional FPU for increased math performance. If you want even more speed, the optional \$49 128KB Cache Card increases the performance of the accelerator up to an additional 25% by providing onboard cache.

pricing starting at

\$249

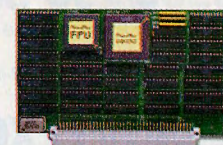
50MHz 68030 WorkHorse Accelerator for Mac II Series, SE/30 & LCIII

DiiMO 030
up to 480% faster!

pricing starting at

\$199

Available for the Mac II, IICI, IISI, IICX, IIX, IIVX (IIVI, Performa 600), SE/30 and LCIII, the DiiMO 030 accelerator offers exceptional speed at a reasonable price. Awarded as one of MacUser's top rated accelerators, the DiiMO 030 combines the speed of a 50MHz 68030 with the added benefits of an onboard 64KB cache (high-speed storage area), Zero-wait state technology (increases CPU performance) and optional FPU for a performance gain up to 400%. The DiiMO 030 offers raw performance equivalent to an entry-level 68040 based Quadra computer. With the DiiMO 030 everything you do will be faster – from creating ads and layouts to calculating spreadsheets and maintaining business reports. The DiiMO 030 is also ideally suited for increasing the performance of Internet Web browsers, Email programs and Web page design. The SE/30 DiiMO 030 board even allows you to upgrade to color video with an appropriate Exceed or Raster Ops video card installed in the accelerator's pass-through PDS slot.



SE/30 video card upgradeable

Economical Mac II Accelerator • SIMM Doubling Upgrade Solutions

Marathon
up to 170% faster!



pricing starting at

\$99

Available for the Mac II, MicroMac's Marathon is an economically priced accelerator that upgrades the Mac II to a 32MHz 68030 processor capable of handling more than 8MB of RAM without requiring a PMMU. With the Marathon you'll notice a performance gain up to 170% in all CPU related tasks. With an optional FPU, the performance of mathematical functions increases up to 200%.

UPGRADE RAM WITHOUT ACCELERATOR - PMMU ONLY \$49

SIMMdoubler II



pricing starting at

\$99

Available for the Mac II, IICI, IISI, IICX, IIX, IIVX (IIVI, Performa 600) and IIFX, the SIMMdoubler II doubles the capacity of your RAM by providing four boards that plug into the SIMM slots on your Mac's logic board. Each SIMMdoubler II board consists of two slots which effectively doubles your SIMM capacity. The SIMMdoubler II also eliminates the need for a ROM upgrade or PAL SIMMs with the Mac II and IIX.

Works with Mac IIFX!

MicroMac carries a full line of accelerators for Macintosh computers. Visit our Web site for product information and special pricing.

800-600-6227

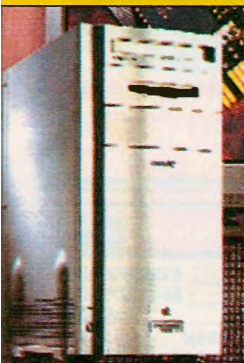
www.micromac.com

MicroMac Technology • 27121 Aliso Creek Road, Suite 125 • Aliso Viejo, CA 92656-3364 USA • (714) 362-1000 • (714) 362-5428 Fax



MacLand Inc. dba

CompuAge

**"America's home for MACS!"****FEDEX
FAST
DELIVERY!!!****(800) 799-4622****3-YR GE ON-SITE
EXTENDED WARRANTIES
AVAILABLE!!!****FULL TIME
TECHNICAL
SUPPORT!!****POWERMACS!!!**

NEW 6500/300	48/4G/12cd	\$LOWEST
NEW 6500/250	32/3G/12cd	\$LOWEST
7200/75*	8/500/cd	\$795
7200/120*	16/1.2G/8x	\$995
7300/180	16/2G/12Xcd/L2	\$1,895
7300/200	32/2G/12Xcd/L2	\$2,049
7500/100*	16/1G/cd	\$1,195
7600/120*	16/1G/cd	\$1,299
7600/132	16/1G/cd	\$1,495
8500/120	16/2G/cd	\$1,495
8500/132	16/1G/cd	\$1,695
8500/150*	16/1G/cd	\$1,495
8500/150	16/1G/cd	\$1,795
8500/180	16/2G/8x	\$2,295
8500/180	80/2G/8x/JAZ	\$2,695
NEW 8600/200	32/2G/12Xcd/L2	CALL!!!
9500/120	16/1G/cd	\$1,695
9500/132	16/2G/cd	\$1,795
9500/150	00/0/cd	\$1,895
9500/180MP	32/2G/cd	\$2,795
9500/200	32/2G/cd	\$2,795
9600/200	32/4G/12Xcd/L2	\$3,299
NEW 9600/200MP	32/4G/12Xcd/L2	CALL!!!

PERFORMAS!

LC580	8/500/cd/14	\$849
5200*	8/800/cd/MON	\$895
5260*	16/1G/cd/MON	\$995
5215*	8/1G/cd/14	\$995
6116*	8/750/cd	\$695
6200*	8/1G/cd	\$695
6220*	16/1G/cd/TV	\$895
6320*	16/1G/cd/TV	\$949
6320	16/1G/cd/TV/15"	\$1,295
6360	16/1G/cd/28.8	\$999
6400/180	16/1.6G/cd	\$1,249
6400/200	16/2.6G/cd	\$1,449
6400/200VE	16/2.4G/cd	\$1,795
NEW 4400/200	16/1.2G/cd	\$1,495

POWERBOOKS!!!

520	4/240	\$849
190	8/500	CALL!!!
190cs	8/500	\$1,299
500SERIES	NEW,Used,REF	IN STOCK!!!
5300CE117	32/1G	\$2,795
5300cs*	16/750	\$1,795
2300c	8/750/M	\$1,199
1400cs	16/750/cd	\$1,799
1400c	16/1G/cd	\$2,299
1400c/133	32/1G/cd/L2	\$2,899
NEW 3400's	180/200/240Q	IN STOCK!

**GRAPHIC ARTS SUPERSTATION!!!**

POWERMAC 9600/232 DUAL PROCESSING CPU
64MG RAM / 2GIG HD / 8X CD ROM
2MG VRAM / 512K L2 CACHE
6 PCI SLOTS FOR MAXIMUM EXPANSION!!!
8MG IMS TWIN TURBO ACCELERATOR CARD
APPLE 17" AV 17" MONITOR
HP 855 CXI COLOR PRINTER
HP SCANJET 4P
IOMEGA JAZ DRIVE FOR LARGE FILE STORAGE
ADOBE PHOTOSHOP 4.0
ADOBE ILLUSTRATOR 6.0
QUARK EXPRESS 3.32

\$9,999**FAMILY PACKAGE**

PERFORMA 6400/180
16MG RAM / 1.2GIG HD / 8X CD ROM
28.8 MODEM / INTERNET SOFTWARE
(MAKE YOUR OWN WEB PAGE!)
APPLE 15" MONITOR
STYLEWRITER 2500c COLOR PRINTER
FAMILY TREE II GENEALOGY SOFTWARE

\$1,999**SMALL BUSINESS SOLUTION!**

POWERMAC 7300/180 FOR BLAZING SPEED!
32MG RAM / 2GIG HD / 12X CD ROM
2MG VRAM / 256K L2 CACHE
HP LASERJET 5L
APPLE 1705 17" MONITOR
33.6 FAX MODEM WITH INTERNET BUNDLE
MICROSOFT OFFICE (WORD, EXCEL, POWERPOINT)
ADOBE PAGEMILL (PUT YOUR BIZ ON THE WEB)
QUICKBOOKS PRO FINANCIAL MANAGING SOFTWARE
NOW CONTACT MANAGER 3.0

\$3,999**WE CARRY A FULL LINE OF PC PRODUCTS TOO!!!****GOVERNMENT AND SCHOOL PO'S WELCOME!!!****MONITORS!!!**

APPLEMULTISCAN	14"	\$245
APPLEMULTISCAN	15"	\$295
APPLEMULTISCAN	15"	\$379
APPLE 1705	17"	\$639
APPLE 1710	17"	\$799
APPLE 1710AV	17"	\$919
APPLE	20"	\$1,699
SONYSFLL	17"	\$759
HITACHI SC	21"	\$1,599
LACIELECTRON	17"	\$1,599
VIEWSONIC 17AV		\$759
VIEWSONIC20G		\$1,199

**MISC.!!!**

APPLEDSGNKEYPAD	\$59
MCALLYEXTND	\$59
SCORPIUS I O5ADB	\$49
33.6 MODEMS!!!	\$179
GLOBALVILLAGE 28.8	\$119
GLOBALVILLAGE 19.2	\$139
GLOBALVILLAGE 2400	\$19
TRACKBALLMOUSE	\$29
PENTDOSCARD	\$849
ZIPDRIVES!!!	\$179+REBATE
EZ QUEST JAZ DRIVE	\$399

PRINTERS!!!

STYLEWRITER	1500	\$195
COLOR2500*		\$199
LASERWRITER	300	CALL!!!
LASERWRITER	360	\$599
LASERWRITER	4/600	\$695
LASERWRITER	12/640	\$1,395
EPSONSTYLUS	400	\$249
EPSONSTYLUS	600	\$299
HPLJ6MP		\$899
HPSCANJET4C		\$839



ALL PRICES REFLECT CASH
DISCOUNT AND ARE SUBJECT
TO CHANGE WITHOUT NOTICE

ALL MAJOR CREDIT CARDS ACCEPTED

**Mac
ADDICT****www.compu-age.com**

COMPU.D

1-800-929-9333

MACAD#
0797**International, Inc.****Sales (818) 787-3282 Fax (818) 787-5555**

6741 Van Nuys Blvd., Van Nuys, CA 91405

<http://www.compu-d.com>**E-Mail: csales@compu-d.com****Same Day
Shipping****Personal & Business****Leasing By**Prices Are Based on C.O.D. Order &
Subject to Prior Sales & Change!
* Factory refurbished with Warranty

PowerMacs

4400/200	32-2GB, 12xCD, DOS	CALL
4400/200	32-2GB, 12xCD, 33.6, Office	\$1945
4400/200	16-1.2GB, 8xCD	\$1475
6500/250	48-4GB, 12xCD, Zip, Office	\$2495
6500/250	32-4GB, 12xCD, Zip	\$2145
6500/225	32-2GB, 12xCD, 33.6	\$1945
7200/120	16-1.2GB, CD	\$995
7200/120PC	16-1.2GB, CD DOS	CALL

7300/200	32-2GB, 12xCD	\$2195
7300/180	16-2GB, 12xCD, DOS	CALL
7300/180	16-2GB, 12xCD	\$1865
7600/132	16-1.2GB, CD	\$1595
8500/180	32-2GB, CD	CALL
8600/200	64-4GB, 12xCD, Zip	\$3595

8600/200
32-2GB, 12xCD, Zip
\$2595**9600/200MP**
32-4GB, 12xCD
\$3895

9500/150	16-2GB, CD	\$2095
9500/180MP	32-2GB, CD	\$2795
9600/233	32-4GB, CD	\$3495
9600/200MP	64-9GB, CD	\$4995
9600/200	32-4GB, 12xCD	\$2995
9600/200	32-OHD, 12xCD	\$2295

COMPU-D
Deal of the
month**DIMM Memory**
We will beat any price
including installation

Performa

6400/200	16/2.4GB, 8xCD, KB.	\$1195*
6400/180	16/1.6GB, 8xCD, KB.	\$1195
6400/180	16/1.6GB, 8xCD, KB.	\$975*
6300/100	8/1GB, CD	\$795*
6360/160	16/1.2GB, CD, KB. 28.8	\$999
6220/75	16/1GB, CD TV, KB., Modem	\$895
6200/75	8/800, CD	\$675
5260	16/1.2GB CD, SVGA Mntn, KB.	\$1095

6400/20016/2.4GB, 8xCD, **\$1395**
KB, 28.8, No Display**5400/180**
16/1.2GB, CD,
KB, 15" Display**\$1295****Star Color
Printer****Free**
w/Sys. Purchase
over \$2000

Apple Displays & Printers

Apple 14"/15"/15"AV	\$289/349/425
Apple 1705/1710/1710AV	\$645/779/845
Apple 20" 20" Color Trinitron	\$1499
MultiView 21" 0.28dpi	\$1375
PrecisionView 21" 0.25dpi	\$1595
PressView 21SR	\$2295
Color LaserWriter 12/600 PS	\$4,895
LaserWriter 12/640/4/600*	\$1,349/499*
StyleWriter 2500*/2500/2200	\$199*/279/289
StyleWriter 1500/1200*	\$199/125

PowerBooks

3400c/240	16-3GB, 12xCD, 33.6	\$5295
3400c/180	16-1.3GB, 12xCD, 33.6	\$3495
1400c/133	16-1GB, 6xCD	\$2495
1400c/117	16-1GB, 6xCD	\$2195
1400cs/117	16-750, 6xCD	\$1795
1400cs/117	12-750	\$1525
1400c/cs	32-2.1GB CD	\$2695/2195
5300c/117	32-1.1GB	\$2195
Duo 2300C	40-2.1GB	\$1795
Duo 2300C	8-750	\$1185

PB. 3400c/200 MHz16/2.1GB, 12xCD, 33.6 **\$3795****PB. 1400cs/117 MHz**44/2.1GB **\$2175****Duo 2300C/100 MHz**20/1.1GB **\$1445**

STORAGE

Zip Drive SCSI/10 pack Ctrdrg.	\$139/109
Jaz Drive SCSI/5 pack Ctrdrg.	\$439/429
NOMAI 540MB SCSI Removable	\$889
SyQuest SyJet 1.5GB SCSI Removable	\$479
Quantum Tempest 2GB SCSI-II	\$299
Quantum Atlas 2.1GB SCSI-II	\$439
Quantum Atlas 4.5GB SCSI-II/III	\$839/869
Quantum Atlas 9GB SCSI-II	\$1379
Seagate Barracuda 4.3GB SCSI-II	\$889
TOSHIBA 1.08/1.35GB IDE 2.5" f/PB.	\$219/249
TOSHIBA 2.1/3.08GB IDE 2.5" f/PB.	\$369/459

Printers & Scanners

**HEWLETT®
PACKARD**

Color LaserJet 5M/LaserJet 55IMX	\$5549/3295
LaserJet 4MV/5M/6MP	\$1995/1499/799
DeskJet 1600CM	\$1399
DeskJet 870CXi/855CXi	\$449/335
ScanJet 5C/5P/4C	\$CALL/435/735

AGFA

SnapScan 24bit color	\$289
StudioScan IIsi	\$479
StudioStar	\$779
Arcus II	\$1475
DuoScan	\$4485

Nikon

Coolscan II LS20E	\$1159
Super Coolscan LS1000	\$1679
Auto Slide Feeder	\$549

Microtek**Scanners**

UC1200SE 30 bit color	\$489
Astra 600S	\$269
Vista S12	\$489
PowerLook II	\$1299
PowerLook 2000	\$3295

SOFTWARE

at Unbeatable Prices!**Adobe**

Photoshop 4.0/Illustrator 6.01	\$349/239
PageMaker 6.5/Acrobat 3.0	\$299/139
Premiere 4.2/Persuasion 4.0	\$395/199
After Effects 3.0/Streamline 4.0	\$429/109

Quark

QuarkXpress 3.3/3.32	\$499/629
----------------------	-----------

MetaTools

Bryce 2.0/Kai's PowerTools 3.0	\$149/119
--------------------------------	-----------

Macromedia

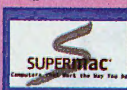
Freehand 7.0/Design Studio	\$239/839
----------------------------	-----------

Fractal Design

Painter 5.0/Detailer	\$269/239
----------------------	-----------

Microsoft

MS Office 4.2.1	\$279
MS Excel /MS Word 6.01	\$159/149

UMAX®**SuperMac****MOTOROLA****StarMax****Systems in stock. (Best prices!)****\$900L \$2095**604 PPC Processor 150MHz, 16MB RAM, 1GB HD,
8xCD-ROM, IMS Twin Turbo w/4MB VRAM

Graphic Tablets

WACOM

ArtPad II 4x5	\$129
ArtZ II 6x8"/12x12"	\$195/299
ArtZ II 12x18"/UD 12x12	\$399/239

Video & Graphic Cards

IMS

Turbo TV	\$145
Twin Turbo 128M4	\$289
Twin Turbo 128M8	\$599

Number Nine Imagine 128 w/MBM \$579



Targa 1000 PCI	\$1295
Targa 2000 PCI	\$2649

radiusVideoVision NuBus **\$595****PCI Graphic Cards**

ThunderPower 30/1920 1920x1080 Res.	\$1,099
PrecisionColor 8/1600 1600x1200 Res.	\$229
LeMans GT/Spigot II Tape	\$395/149

COMPAQ TOSHIBA**IBM TEXAS INSTRUMENTS****Desktop & Laptops in Stock!**
Call for Best Prices!<http://www.compu-d.com>**1-800-929-9333**<http://www.compu-d.com>

"Friends don't let friends use 'DOS'!"



The United Computer Exchange

... Buy or Sell Any Macintosh Through Us!

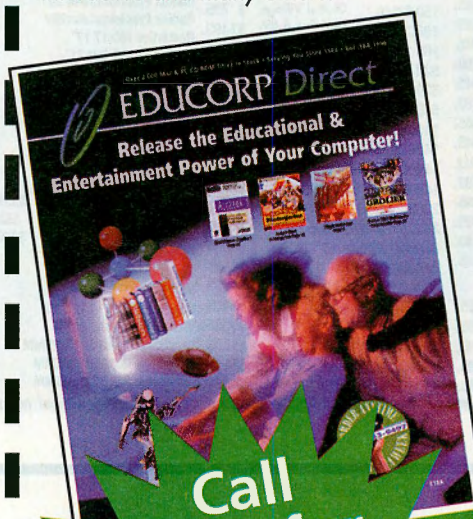
800.755.3033
770.612.1205

Visit Our Online Exchange at
www.uce.com



World's Largest Selection of Mac CD-ROM Titles

We carry 1000s of titles from leading publishers such as Bungie, Cyberflix, DK Multimedia, Davidson, The Learning Company, Microsoft, Voyager, Virgin Interactive and many others.



Call now for your FREE Catalog!
1-800-843-9497

Games

Entertainment

Education

Multimedia Tools

Reference

Web Design

General Interest

Science

Lifestyles

Arts & Creativity

Internet

Maps & Atlases

Bundle Bonuses

Mac ADDICT!

A better machine. A better Web site.

Get Addicted

➤ **Links to other key Mac sources**

➤ **News and information**

➤ **Chat forums**

➤ **Contests**



www.macaddict.com

imagine
a new way of publishing

For your FREE EDUCORP Direct catalog just fill out and mail this form to:

EDUCORP Direct

7434 Trade Street, San Diego, CA 92121-2410

NAME: _____

COMPANY: _____

ADDRESS: _____

CITY: _____ ST: _____

ZIP: _____



EDUCORP[®] Direct

Link-up to our website: www.educorp.com

Info: (619) 536-9999 Fax: (619) 536-2345

Custom Configuration Specialists

*Dealers & International sales welcome
*Govt., University & Corporate P.O.'s Welcome
*Best Prices, Service & Delivery.

POWERMAC

4400/200 16/1.2/8XCD/KB	\$1445
6100/66 8/500/CD	\$695
6100/66 16/500/CD/DOS	\$695
7100/80 8/500/CD	\$895
7300/180 16/2GB/CD/KB	\$2095
7300/200 32/2GB/CD/KB	\$2295
8100/80 16/700/CD	\$1095
8100/100 16/1GB/CD/AV	\$1695
8100/110 16/2GB/CD	\$1795
7200/75 8/500/4XCD	\$CALL
7200/90 8/500/4XCD	\$895
7200/120 16/1GB/4XCD	\$1095
7200/120 16/1.2/8XCD	\$1145
7200/120 8/1.2/4CD/PENT.	\$1695
7500/100 16/1GB/4X	\$1295
7600/120 16/1.2GB/4XCD	\$1495
7600/132 16/1.2/8XCD	\$1595
8500/150 16/2GB/8XCD	\$2045
8500/180 32/2GB/8XCD	\$2695
8600/200 32/2GB/CD/zip/kb	\$3045
9500/132 16/1GB/4XCD/ATI	\$1795
9500/150 16/2GB/4XCD/ATI	\$2345
9500/180MP 32/2GB/8XCD	\$2945
9500/200 32/2GB/8XCD	\$CALL
9600/200 32/4GB/CD/KB	\$3495
9600/200MP 32/4GB/CD/KB	\$4395
6500/250 48/4GB/CD/F/Z/KB	\$2395
6500/250 32/4GB/CD/ZIP/KB	\$2145
6500/225 32/3GB/CD/F/KB	\$1845

W.G. SERVER'S

7250/120 16/1.2GB/CD	\$1195
7250/120 16/2GB/CD/AS.	\$2295
8550/132 24/2GB/CD/D/AS	\$2995
8550/200 32/2GB/CD/AS	\$3995
9150/120 16/1GB/CD	\$1695

*Govt. & university P.O.'s welcome • Prices are cash discounted and are subject to change without notice. We accept Visa, Mast. & Amex •

PERFORMA

580 8/800/KB	895
580 8/800/CD/KB	995
5215 8/1GB/CD/14.4	949
5260 16/800/CD	1095
5300 16/1GB	1295
6400DS 12/500/CD	895
6116 8/700/CD/14"	995
6200 8/1GB/CD	695
6220TV 16/1.2GB/CD	795
6300 16/1.2/CD	795
6320CD 16/1GB/CD	895
6400/180 32/2GB/CD	995
6400/200AV16/2.4/CD 1495	

POWERBOOK

150 8/240 Global Village	\$ 795
190CS 8/500 14.4 Fax \$ 89	\$1495
165 12/160/FAX MODEM	\$795
520 8/240	\$1095
520C 20/240/FAX	\$1395
5400 16/500/14.4/100MHz	\$1695
1400CS 12/750/CD	\$1795
1400CS 16/750/6XCD	\$2595
1400C/117 16/1 GB/CD	\$2695
1400C/133 16/1GB/CD	\$1085
2300C 8/750 "RECON"	\$1395
2300C 20/1GB/MDM	\$3995
3400C/180MHz 16/1.3GB	\$4495
3400C/180MHz 16/1.3GB/CD	\$4595
3400C 200MHz 16/2GB/CD	\$5495
3400C 240MHz 16/3GB/CD	\$1595
5300CS 16/750	\$1595
5300C 8/500	\$1695
5300C 16/750	\$2495
5300CE/117 32/1GB	

One stop shopping for all your

800 • 589 • 1234

TEL 310•470•9426

software & hardware needs!

FAX 310•470•4956

Web Site @ www.infinity-micro.com

MONITORS

Apple 14" Multiscan	\$249
Apple 15" Multiscan	\$289
Apple 17" Multiscan	\$595
Apple 1705/1710	\$545/\$795
Apple 1710AV Multiscan	\$895
Apple 20" Multiscan	\$1095
Magnavox 20" Color	\$795
Radius PrecisionColor 20"	\$995
Radius PrecisionColor 20V	\$779
RasterOps MC-17 17"	\$1499
RasterOps MC-801 21"	\$1949
RasterOps MC-801HR	\$1659
RasterOps MC-21	\$1849
PRESSVIEW 17SR	\$3079
PRESSVIEW 21T/CAJ	\$1895
MULTIVIEW 21"	\$1595
SuperMatch 21TXL w/Calib.	\$1895
Sony 100SX/100SF	\$359/\$435
Sony 200SX/200SF	\$639/\$749
Sony 17S22/20SEII	\$945/\$1795
Sony 300SF-20"	\$1579
ViewSonic 17GA-17"/27	\$575
ViewSonic 17EA-17"	\$599
ViewSonic GT-770 17", 25	\$695
ViewSonic GT-800 20"	\$1249
ViewSonic PT-810 21", 25MM	\$1599
ViewSonic P810 21", 25MM	\$1495
ViewSonic P815 21", 25MM	\$1649

PRINTERS

StyleWriter II	\$199
StyleWriter 1200	\$149
StyleWriter 1500	\$169
Port. StyleWriter 2200	\$389
StyleWriter 2400	\$199
StyleWriter 2500	\$249
LaserWriter 4/600	\$649
LaserWriter 12/640	\$1479
LaserWriter 12/600	\$1995
Color LaserWr. 12/660PS	\$5295
Epson Stylus 600	\$295
Epson Stylus 800	\$489
Epson Stylus Pro-XL	\$1445
Epson post script option	\$349
Epson Ethernet option	\$349
Fargo Primera Pro	\$1345
Fargo Pictura 310	\$2195
Fargo Pictura 310ethernet	\$3279
Elite XL-1212 Laser	\$1245
Elite XL-608 w. toner	\$2195
Elite XL-616 11X1,600dpi	\$2395
Elite XL-808 11X17,600dpi	\$2495
Elite XL-1208 super size	\$3779
HP DeskWriter 340 Port.	\$329
HP DeskWriter 680c	\$299
HP DeskWriter 855cxi	\$479
HP LaserJet 1600CM	\$1679
HP LaserJet 4MV	\$2195
HP LaserJet 5SiMX	\$5395
HP Color Laser 5M	\$1995
HP LaserJet 6MP	\$875



Largest & Most Complete Mail order Source!

2289 Westwood Blvd. Los Angeles, CA. 90064

Email us at: Infinity@themall.net

APPLE RELATED CARDS

Centris 610/660AV nubus adapter	\$19.
Apple 486DX-6100 Dos card	\$149.
Apple Pentium 100MHz card	\$895.
IMS Twin Turbo 8MB PCI	\$499.
ATI Xclaim-VR 4Mb card	\$279.
Precision Color 24/1600	\$395.
Radius Thunder30-1600 6MB	\$679.
Radius Thunder Color/30-1600	\$1899.
Radius Thunder Power/30-1600	\$845.
Radius Thunder Power/30-1920	\$1179.
Radius Thunder 3D Pcl card	\$2749.
Truevision Bravado 1000	\$589.
TrueVision Targa 1000	\$CALL.
TrueVision Targa 2000Pci	\$2695.
TrueVision Targa 2000Pci Pro	\$2995.

SCANNERS

AGFA Transpascari option	\$379.
AGFA StudioScan II Color	\$795.
AGFA Arcus II w. transpascari	\$1449.
EPSON ES-1000C COLOR	\$585.
Epson Exp. 636 Executive	\$849.
Epson Exp. 636 Artist 600dpi	\$1285.
Epson Exp. 636 Professional	\$1695.
Microtek Scanmaker E3	\$345.
Microtek ScanMaker E6 STD	\$569.
Microtek ScanMaker E6 Pro	\$845.
Microtek ScanMaker III	\$1375.
Microtek ScanMaker 35T Plus	\$745.
Microtek ScanMaker Internet	\$565.
Umax Vista S66 300dpi color	\$299.
Umax Vista S12 600dpi, OCR	\$599.
Umax Vista S12 600dpi, Pgmgr	\$695.
Umax PowerLook II w. UTA	\$1745.

FedEx

GROUND
3 DAY SHIPPING
INSTEAD OF 7 DAYS
AVAILABLE NOW!
THAT'S WHATS
MAKING US SO
GREAT!!!
Cheeper, Faster & better

Magnavox 20" Multiscan Color \$895.

PowerBook DUO 2300C 20/1GB/FAX W. DUO DUCK + \$1699.

UPMAC / UMAX Power Computing Motorola please CALL 8550/132 server \$2999.

LOWEST PRICES GUARANTEED

Power Macintosh

7300/180

- PowerPC™ 604 running at 180 Mhz
- Three PCI slots
- Built in ethernet and video
- Expandable

\$1899 LIMITED

5260/120 16/1.2GB/CD/L2	CALL
4400/200 16/2GB/8xCD/L2/KB	\$1499
4400/200 32/2GB/CD/L2/BUS. BUNDLE	\$1869
6500/250 48/4GB/CD/L2/ZIP/BUS.BUNDLE	\$2439
6500/225 32/3GB/CD/L2//HOME BUNDLE	\$1859
6500/250 32/4GB/CD/L2/ZIP/HOME BUNDLE	\$2149
7200/120 16/1.2GB/8xCD/L2	\$1099
7300/180 32/2GB/CD/ZIP/L2/KB	\$2169
7300/200 32/2GB/12xCD/L2/KB	\$2399
8600/200 32/2GB/12xCD/ZIP/KB	\$3159
9500/233 32/4GB/12XCD/VI	\$3989
9600/200 0/0/12xCD	\$2499
9600/200 32/4GB/12xCD/KB/VI	\$3289
9600/200MP 32/4GB/12xCD/KB	\$4499

Performa

6200 8/1.0GB/CD/KB Refurb.	\$799
6218CD 16/1GB/CD/15"	\$1199
6300 16/1.2GB/CD/15"	\$1349
6360CD 16/1.2GB/8xCD	\$1099

PowerBook

PowerBook Duo 2300c

- 603e processor /100 Mhz
- 20 MB of RAM expandable to 64 MB
- 1.0 MB HD • Optional DUO DUCK • Apple express modem • Factory Refurbished • Active matrix display & more

\$1399

PB 1400cs/117 16/1GB/6XCD	\$1899
PB 1400cs/117 12/750	\$1549
PB1400c/133 16/1GB/6XCD	\$2799
PB3400c/180 16/1.3GB	\$3989
PB3400c/180 16/1.3GB/CD	\$4259
PB3400c/200 16/2GB/CD	\$4999
PB3400c/240 16/3GB/CD	\$5899

Printer & Monitor

Apple MultiScan 15av	NEW !	\$419
Apple 15" Refurb.		\$299
Apple 1705		\$599
Apple 1710		\$749
Apple 1710av		\$879
Apple MultiScan 20		\$1499
Color StyleWriter 1500		\$229
Color StyleWriter 2500 Refurb.		\$209
LaserWriter 12/640		\$1498
LaserWriter 16/600		\$2098
Color LaserWriter 12/660		\$5699

Custom Configuration Available Business Leasing Available

UMAX

Computer Corporation

SUPERmac

S900L/250

\$4698

Offering 250 Mhz PowerPC™ 604 processor, 8X CD-ROM, 6 PCI slots, 5 expansion drive, 32 MB of RAM, 2.5GB HD, IMS 4MB VRAM Video, Built in SCSI-2 and 10Base-T, Ext. KB, Mouse, Conflict catcher 3.0, Asante Net doubler, Mac™ D/S, and FWD CD-ROM & H/D Tool kit.

C500/180 16/2.1CD	\$1158	S900L/200 16/2GB/CD	\$3059
C600/240 16/2GB/CD	\$1859	S900L/233 16/2GB/CD	\$3895
C600/200 16/2.1GB/CD	\$1598	S900L/225 16/2GB/CD	\$3389
J700/180 24/2.1CD	\$2289	S900/180MP	\$3699

MOTOROLA

StarMax

3000 DT/180 16MB/1.2GB/8xCD	\$1249
3000 DT/180-6 16MB/1.2GB/8xCD	\$1299
3000 MT/180 32MB/2.5GB/8xCD	\$1429
3000 DT/200 16MB/1.2GB/8xCD	\$1499
3000 MT/200 32MB/2.5GB/8xCD	\$1699
3000 MT/240-6 32MB/2.5GB/8xCD	\$2189
4000 DT/160 16MB/1.2GB/8xCD	\$1499
4000 MT/160 32MB/2.5GB/8xCD	\$1699
4000 DT/200 16MB/1.2GB/8xCD	\$2139
4000 MT/200 32MB/2.5GB/8xCD	\$2299
4000 MT/200-6 32MB/2.5GB/8xCD	\$2599

MEMORY

8MB / 16MB DIMM	\$59/\$89
32MB / 64MB DIMM	\$179/\$359
16MB / 32MB	

BaseOne Computers MacBase PcBase

Mon-Fri 8:00 To 6:00 SAT 10:00 TO 2:00 PST

<http://www.MacBase.com>
(800) 965-1711
INTERNATIONAL (714) 428-0777 , FAX (428) 428-0778

RE-WRITE

CD-RW
Technology
Is Here!

NEW!



-INTERNAL

\$699

also reads/writes CD-R discs!

- 2X WRITE/6X READ
- SOFTWARE INCLUDED
- REWRITE UP TO 1,000 TIMES!
- GREAT DEALS ON CD-RW MEDIA
- PERFECT FOR BACKING UP TO CD



RECORD

4x/4x
write read
Recordable
CD

GREAT DEAL!



-INTERNAL

\$699

affordable performance

- 1MB CACHE BUFFER
- 220 MS ACCESS SPEED
- TRAY LOADABLE CD



RECORD

JAZ 1GB &
CD Recorder
Duo!



\$899

JAZ/CD-R duo

- 1GB JAZ & CD-R
- ALL IN 1 UNIT (2 SCSI)
- W/SOFTWARE+CABLES



PLAY 
CD-ROM drives
with blazing
speed!

\$349

-EXTERNAL

PLEXTOR:

- FASTEST AUDIO CAPTURE WHEN
RECORDING AUDIO CDs!

plextor
12X
or
16X



CD-ROM &
CD-R Duo!

Copy CDs & Capture Audio!

\$1199

INCLUDES CD-COPY SOFTWARE - FREE!

4X/12X or 4X/16X
write read write read



LABEL

720 dpi
CD-R color
printer!

LIMITED OFFER!

COMES BUNDLED WITH:

- FREE** -10 PIECES OF PRINTABLE MEDIA
- FREE** -CD STOMPER LABELING KIT
- FREE** -CD STOMPER SOFTWARE

\$1295

720 dpi color

- PRINTS DIRECTLY TO
CDs, PAPER OR
CARDSTOCK!

CD STOMPER
LABELING KIT
\$79



DUPLICATE

Sidekick 5-CD
Dup. System -
DVD rated

call

MediaFORM 2601

Standalone, 25 CDs unattended

MediaFORM 2610

Standalone, 25 CDs unattended

MediaFORM CD-2-CD

Standalone, duplicate to any format

Rebel 4-CD Dup. System

Standalone, 16 CDs/hour

Rebel For Audio

Standalone DAT to CD

call our PRO-DUP Team!



CD Recorders

	internal	external
AVD 4X-W/6X-R Yamaha	\$799	\$849
AVD 4X-W/4X-R	\$699	\$799
AVD 2X-W/4X-R	\$399	\$449
AVD 2X-W/6X-R Sony	\$449	\$499

JAZ/CD-R Duo

	external
JAZ 1GB & 4X/6X Yamaha	\$1,299
JAZ 1GB & 4X/4X	\$1,249
JAZ 1GB & 2X/4X	\$899
Fast Audio Capture & CD Copy 4X-W/12X-R	\$1,199

CD-ROM

	internal	external
AVD 12X-R - Plextor	\$269	\$349
AVD 16X-R	\$269	\$349

Media

Syquest Compatible 44MB	\$33
Syquest Compatible 88MB	\$37
Syquest 135MB	\$19.99
Syquest Compatible 200MB	\$55
Syquest 270MB	\$55
ZIP 100MB	\$14.99
JAZ 1GB	\$95
DLT 10/20GB	\$39.99
DLT 15/30GB	\$44.99
DLT 20/40GB	\$106.99
128MB Optical	\$9.99
238MB Optical	\$14.99
640MB Optical	\$27.99
650MB Optical	\$29.99
1.2GB Optical	\$24.99
1.3GB Optical	\$39.99
2.6GB Optical	\$69.99
1APEX 4.6GB Optical	\$169

Data Storage

	internal	external
JAZ 1GB Drive + Cartridge	\$299	\$399
Nikon Beluga 2.6GB LIMDOW	\$1,699	\$1,799
Pinnacle Micro APEX 4.6GB		\$1,399
DLT 15/30GB Tape Drive		\$2,895
DLT 20/40GB Tape Drive		CALL
Hard Drives		CALL

Software

CD-DA Professional Audio CD Mastering	\$399
CD COPY Copy any data or audio CD	\$199
M-PACK MPEG Encoding Software	\$399
TOAST 3.0 #1 CD Writing Software	\$299
MASTERLIST Pro Audio CDs by Digidesign	\$499
AUDIOMEDIA III Mac PCI Audio I/O Card	\$699
MEGA PACK: with Toast 3.0, CD-DA & CD-Copy	\$499
SESSION: Audio Edit Software	\$199
PROTOCOLS: Professional audio, for use with PCI	\$699



ORDER TOLL FREE!

Product Prices and Availability Subject To Change

Ad Code: LA-107

800.555.5551

open M-F: 7 a.m. - 6 p.m. (PST) • international ph. 714-974-5551 • fx. 714-279-1690

MEDIASTORE

www.mediastore.com

voice: 510-689-9488 fax: 510-689-9487

PRICES & QUANTITIES SUBJECT TO CHANGE

Place Your Orders OnLine!

1-888-447-3728 • MacResQ • www.macresq.com

Toll Free



Perf.640 DOS
12/500/CD/DOS

\$699†
(cpu only!)

Mac OS

PARTS, PARTS, PARTS!!

CD 600i+ (tray) NEW! \$99
CD 1200i+ (tray) PULLS \$179
are internal- we can put them into an external case(non apple) for \$60 (w/cables)
*mounting kits avail- call for prices!
Manual inject floppies (661-0121)** \$49†
Auto inject floppies (661-0474)** \$79†
120 mhz PM processor upgrade cards \$99
132 mhz PM processor upgrade cards \$129
80 MB 3.5" SCSI hard drives (internal) \$29†

PRINTERS:

StyleWriter 1200 \$169
Color StyleWriter 2500 \$249*

APPLE MONITORS:

12" GreyScale Display \$129*
13" RGB Display \$199†
14" Performa Plus Display \$199†
15" Multi-scan Display \$325*
17" Multi-scan Display \$499†
SuperMatch 21 txl \$1199*

POWER SUPPLIES:**

LC thru Q 605 \$19
Mac II cx/ci/ Q 700 \$49
Q 800 / PM 8100 \$109
PM 8500 / 9500 \$129
Duo Dock \$69
Q 900 / 950 \$129
PM 6100 (EXCH. ONLY) \$89
PM 7100 (EXCH. ONLY) \$69
II SI \$79

APPLE POWERBOOKS

540c 12/320/19.2 \$1499†
540 12/500/19.2 \$999†
DUO SERIES
250 12/200/14.4 \$599†
280 12/240/14.4 \$749†
280C 12/320/14.4 \$999†
2300C 22/750 \$1249*
Duo Dock I \$199†
SCREEN UPGRADES
520 TO 520C \$299



Apple CD ROM'S!
2x,4x,8x
from \$99 each!



Duo 250
12/200/14.4
\$599†!

MR
Mac-ResQ.

Apple 17" Multi-scan
\$499†

Performa 630
8/500/CD
(cpu only) **\$549†**



Complete Color Systems!
Ilsi 5/80 \$349, Ilcx 4/80 \$379, Ilci 4/80 \$399
All come with 13"RGB & kybd !!! (used)

† = Used, 90 Day MacResQ Warranty • * = Refurbished (90 Day Warranty) • All Parts Sold With a 90 Day MacResQ Exchange Warranty • ** = Exch. Required For Orders of 10 or Less • All Major Credit Cards With NO Surcharge.

Mac ADDICT MARKETPLACE

A better machine. A better magazine.



The affordable and effective way to reach your market.

For information or space reservations call...
Mary LaChapelle (415)468-4684x417

YOU CAN ORDER BACK
ISSUES BY WRITING TO US:

MACADDICT CUSTOMER SERVICE
IMAGINE PUBLISHING
150 NORTH HILL DR.,
BRISBANE, CA 94005

PLEASE SEND CHECK OR MONEY ORDER
AND SPECIFY WHICH ISSUE YOU WOULD LIKE
TO ORDER. (SORRY, WE ARE ALL OUT OF
THE PREMIERE ISSUE, AUG/SEPT '96).

Inside the U.S. please send: \$8.99 for magazine and CD-ROM;
\$5.95 for magazine only. Outside the U.S. please send: \$12 for mag-
azine and CD-ROM; \$8 for magazine only. U.S. prepaid funds only.

Mac ADDICT

A better machine. A better magazine.

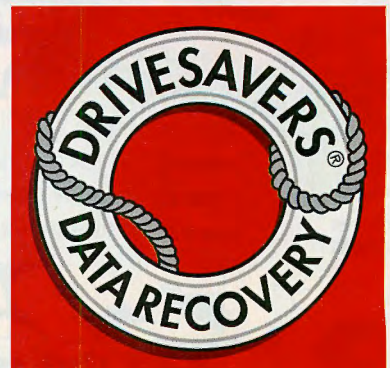


OCTOBER/96 - APRIL/97

DATA RECOVERY: 800-440-1904

7 good reasons to choose DriveSavers:

1. We're the most trusted and respected Mac data recovery specialists.
2. 24-hour, onsite, and weekend service available.
3. Proprietary techniques so advanced we retrieve data others might simply abandon.
4. Over 12 years of data recovery experience.
5. Certified to maintain most drive warranties.
6. Featured by CNN, NextStep, C-Net, Forbes.
7. All storage devices; Mac OS, DOS, Win95, WinNT, OS/2, UNIX, Sun, SGI, Novell.



Clip and save this ad. Visit DriveSavers at: www.drivesavers.com

©1997 DRIVESAVERS, INC. 400 BEL MARIN KEYS BLVD., NOVATO, CA 94949, INTL.: 415-382-2000, FAX: 415-883-0780





- Winner of MacUser's highest rating for genealogy software
- Add scanned photos and documents
- Create large, graphic tree charts for family reunions

Now Includes FREE Upgrade to Reunion 5

Visit our Web site for a free demo:

www.LeisterPro.com

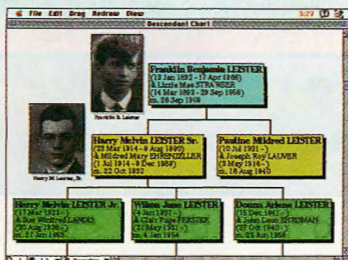
To order, call

MacConnection 1-800-334-4444

Create your own personalized family tree!

Reunion for Macintosh

Compose your family's genealogy with Reunion. Just fill in "family cards" on screen and Reunion automatically creates color tree charts up to 99 generations, book style reports, family group records, mailing lists, and calendars. It even lets you link and display pictures and legal documents to help you compile the ultimate archive. Reunion records all your family information: facts, dates, sources, notes, and custom fields, for information that's important to you.



Leister Productions

PO Box 289, Mechanicsburg, PA 17055

Phone 717-697-1378 Fax 717-697-4373

CompuServe 74774,1626 America Online LeisterPro

Internet e-mail info@LeisterPro.com



Practica Musica™ 3

Your Personal Music Tutor! **MW★★★★**

"The best music education program for the Mac" (-MacUser) is now available in Solo, Family, and Site editions. (retail \$99, \$140, and \$450). The most complete music training package for both beginners and advanced students.

Kidmusic

NEW! Fun music learning and entertainment for kids. Tap keys to play with automatic accompaniment, play rounds, learn pitch and rhythm notation, write or record tunes. Expandable library of traditional songs. \$75

ARS NOVA • (206) 889-0927 • (800) 445-4866 • FAX (206) 889-0359 • www.ars-nova.com

Visit our Web site at

www.macaddict.com

MacADDICT

A better machine. A better magazine.

BUY • SELL • TRADE

MEMORY

- WE CAN **BEAT** ANY QUOTED PRICE IN THIS MAGAZINE
- WE CAN **PAY HIGHER** THAN ANY ONE FOR **YOUR** OLD or **BROKEN** MEMORY

Lifetime Warranty on All Parts

1-800-4-MEMORY

[HTTP://18004MEMORY.COM](http://18004MEMORY.COM)

MEMORY

POWERBOOK RAM

3400/1400/5300
500/190/2300

4MB.....	\$49
8MB.....	\$65
16MB.....	\$109
32MB.....	\$195
48 MB.....	\$339!

LIFETIME WARRANTY!

**HIGHEST QUALITY
LOWEST PRICES
GUARANTEED!**

SOURCE COMPUTING

800/900-4599

<http://www.sourcecomp.com>

Voice 954/725-9777 • Fax 954/725-9777

All products feature a 30 day money back guarantee. All memory products are brand new and carry a limited lifetime warranty. Government and educational PO's are welcome. No surcharges on credit cards. Order 24 Hours! Call for latest pricing as prices are subject to change without notice!

HP DIMMS FUJITSU

168pin • FPM/EDO/33v

8 MB.....	\$39/41/47
16 MB.....	\$79/81/87
32 MB.....	\$155/159/167
64 MB.....	\$309!/315/349

LIFETIME WARRANTY!

NEC L2 CACHE OKI

256k 61/71/81xx.....	\$15
1MB 61/71/81.....	\$129
256k - 72/75/85.....	\$49
512k 72/75/85.....	\$89
1MB - 72/75/85.....	\$159
256k - 54/64.....	\$95
512k - 54/64.....	\$149

SIMMS IEM

72pin • FPM/EDO

4 MB.....	\$19/21
8 MB.....	\$35/37
16 MB.....	\$75/77
32 MB.....	\$147/149!!

30 PIN SIMMS • 70/60ns

1MB.....	\$9
2MB.....	\$16
4MB.....	\$23
16 MB.....	\$95!

MITSUBISHI VRAM MOTOROLA

256k.....	\$13
512k.....	\$21
1MB 72>85xx.....	\$29
2MB STARMAX.....	\$69
2MB ATI/9500.....	\$65

LIFETIME WARRANTY!

WE WILL BEAT ANY PRICE!





shut down

shutdown

Overheard:

"No wonder Macs are the best-selling computer in Japan. One Microsoft ad translated from Japanese reads, 'If you don't know where you want to go, we'll make sure you get taken.'" —Al Hulation, as submitted to the MacWay EvangeList.

X-Files Technology

"We want to be very clear about this. Vortex and the MARS technology are purely the work of local (Earth) boys. No alien technology is involved. We never at any time consciously modeled our work after any example of space alien information delivery systems." —Cliff High, president of Tenax Software Engineering, in a press release refuting European UFO groups' claims (real or imaginary, we're not entirely sure) that the Web release of Tenax's speed-reading software is "the beginning of a world domination scheme." Fear not, Scully and Mulder are already on the case.

Right on the Cusp

If you were born between 1955 and 1964, you're not a Baby Boomer or a Gen X-er, according to ad agency Chiat Day; you're a Cusper, and you love your Mac. In early March, the idea factory featured on its site (<http://www.chiatday.com>) the results of a Cuspers-only online poll, which revealed that the product Cuspers most identify with their generation (after Levi Strauss jeans and Coca Cola) is the Macintosh. The Mac beat out IBM, which came in fifth, just ahead of Hondas and Hostess cakes. Ho, ho, ho.

Be Afraid, Be Very Afraid

Reason number 173 to fear technology:

Mr. Asciihead learns the macarena.

O O O O O <O <O> O> O
.|. \|. \|/ // X \ | <| <|>
^ >\ /< >\ /< >\ /< >\ /<

—Thanks go out to our good friend Tony Bojorquez of Foster City, California, for this scary testament to the danger surrounding the tacky use of technology.

AOL.problem.com

"If you can't make money with 8 million customers, how many customers do you need?" —Netscape Communications co-founder Marc Andreessen on the problems at America Online in a March interview with the *Washington Post*.

AOL.solution.com

"Then I got my credit card bill, and it said I owed \$536.05. I was hysterical." —Nadine Goldman, a New York City preschool teacher, complaining in an April *New York Times* article that the "800" number her family was using to log onto AOL, surprisingly, wasn't free.

RAY DISCOVERS THE KILLER APP.



Doodle by Mark Simmons

Name Calling

On a money-making mission to India last spring, Bill Gates was touted by local papers as being the "Wizard of Windows," the "Sultan of Software," and the "Infotech czar." We can't figure out why they didn't just use any of his many popular American nicknames, such as "Gates From Hell," "Windows Wanker," or "The Man Who Wants to Own the World and Probably Will."

DEVELOPING A FINE WHINE

A message found on a Mac games developers' mailing list from David Wareing to a confused programmer who was lamenting Apple's lack of support for Game Sprockets (a developer's toolkit for Mac games):

- Q. How do I hide/show the Control Strip?
- A. This used to be hard, but now, thanks to Apple's cuts, it's actually getting easier! Simply port your project to the yellow box and wait for Apple management to kill the Control Strip...."

Keeping Bad Company

Naive devotees of Microsoft's FrontPage are in for a surprise if they believe everything the wizards tell them. Microsoft wired the generic Web address <http://www.company.com> into the product's wizards without realizing that somebody (Mike O'Connor) actually owns it. For about 24 hours, O'Connor shocked FrontPage users who followed the link by pointing them to a hard-core sex site. Now the site merely points toward such friendly companies as Corel, Novell, and, of course, Apple.

Welcome to

www.company.com
another Microduh! site

Listen To Your Mac!

LACIE
LIMITED

fm radio



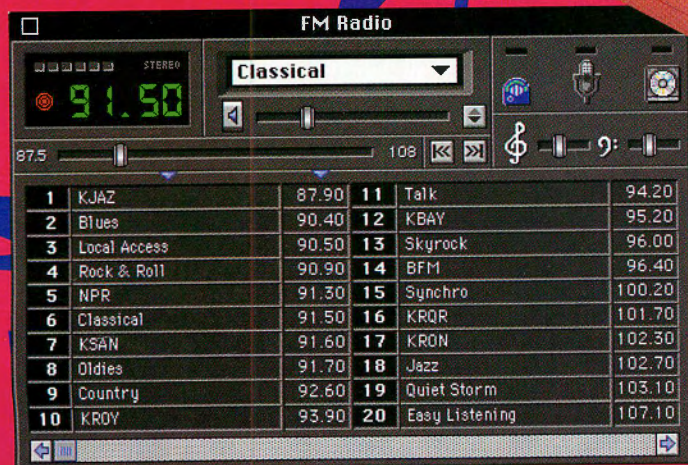
Tune into all your favorite FM stations directly through your Mac!

Plug our FM Radio into *any* Macintosh and discover how much more FUN working on the Mac can be with great music, news, sports and weather a click away.

This great little radio tuner will drive internal or external speakers in 16-bit stereo sound and operates in the "background" without affecting your applications.



Actual Size!



The La Cie FM Radio connects in seconds to any desktop Mac with ADB and Microphone jacks. Software, antenna and cables are all included.

A cool on-screen interface gives you tone, volume, quick dial, quick mute, 50 pre-set frequencies, station search and many more controls!

La Cie Limited • tel 503 520-9000 • fax 503 520-5508 • web <http://www.lacie.com>

La Cie and the La Cie logo are trademarks of La Cie, Ltd. All other trademarks are the property of their respective companies. All specifications, terms, warranties, descriptions, products and services herein are subject to change without notice or without recourse. © Copyright 1997 La Cie, Ltd. All rights reserved.

NOW AVAILABLE AT
MacWAREHOUSE
1-800-255-6227

BUNGIE



IT'S PROBABLY OVERKILL

BUT ISN'T THAT THE POINT OF MARATHON?



Marathon Trilogy Box Set.

The Three part Marathon saga of overwhelming network play and single player alien pillage all in one lethal package. The box set includes every sick instrument we could throw at you = All Three Marathon releases, 1200 Terrifying new levels of pain, The editing Tools To create your own delusions and an odd assemblage of memorabilia including The game That started it all, Pathways into Darkness. Call 800 295 0060 or visit www.bungie.com To get it now for \$49. Kill for it if you have to.